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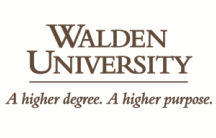

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Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Dr. Mahama Ibrahim Baba

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2019

Abstract

Factors That Influence Place of Delivery Choice Among Expectant Mothers in Ghana

by

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MD, Kalinin State Medical Institute, 1990

MSc, Heidelberg University, 2002

CEMPA, Kwame Nkrumah University of Science and Technology, 2012

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

Walden University

August 2019

Abstract

Several factors may affect the choice of place of delivery among expectant mothers in Ghana and few studies have examined the choice of place of delivery with a focus on differences between rural and urban areas. In this study, the factors that influence the choice of place of delivery among expectant mothers in both rural (Tolon District) and urban (Tamale) settings in the northern part of Ghana were identified and compared using the conceptual framework provided by Thaddeus and Maine. A mixed-method study was used to examine expectant mothers and their responses related to factors that affect their choice of place of delivery through a concurrent triangulation using health professional interviews and a detailed participant survey.. The sample consisted of 552 expectant mothers between the ages of 15 and 49 years. Individual interviews were held with 8 health professionals (4 each from rural and urban areas) with a minimum of 5 years of work experience and a focus group discussion with randomly selected pregnant women and lactating mothers. Themes were generated through open coding of the interview data, while multiple regression was performed to identify the factors associated with choice of place of delivery, rural area, preference (60.1%) was for home delivery compared to 20.7% for urban participants. Statistically significant variables affecting the choice of place of delivery among study participants were found to be educational background, the experience of previous deliveries, the attitude of hospital staff toward pregnant women during labor, and frequency of accessing antenatal care. The study's implications may lead to positive change where stakeholders develop and implement policies to promote health facility delivery for expectant mothers in both rural and urban areas of Ghana.

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Dedication

I dedicate this dissertation to my dear wife, Safura Salifu, and my lovely children, Sadique, Adisah, Shamimata, Abdul-Basit, and Ramadan. Safura, your sturdiness, and belief in me kept me going through this wonderful journey. Your encouragement kept me on. I do remember you sometimes ask me how far I had gone. All praises go to you, my wife. The sacrifices you made for me cannot be forgotten. I know you did so much for the upkeep of the family during my absence from the country traveling for my residency. I pray to the Almighty Allah to reward you abundantly for your efforts.

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Chapter 1: Introduction to the Study

Introduction

It takes a whole family to decide where a pregnant woman should deliver her child. In making that choice, many factors come into play. The topic of this study was to empirically examine the major factors that lead expectant women to choose the place they want to deliver their babies. These factors represent the circumstances that influenced women in deciding where they want to deliver. The study, therefore, may shed light on major issues affecting pregnant women. In Ghana, especially in the study areas where I carried out this research, the place of delivery had a direct effect on the maternal mortality rate. The chances of mothers surviving childbirth may either increase or decrease depending on where they deliver their babies. This study provided vital empirical information and data that can be used to inform interventions and policies designed to benefit women and reduce the maternal mortality rate.

The results of this study have the potential to help inform some aspects of the social systems and structures where the research occurred. Because childbirth is a major component of women's reproductive health care, this study has the potential social implication of affecting women's health, reproduction, and the wider scheme of community development by reaching a clear understanding about the infrastructure necessary for women to deliver babies safely and how much control women have over their choices in maternal health and the health of their unborn babies. By examining the dynamics of choice of place of delivery, I can gauge the progress society has made in women's education through a look at their understanding of the factors required for a safe

delivery. I was also able to determine information about culture, the way people in the study areas interpret the phenomenon of childbirth, and their attitudes toward women, pregnancy, and women's health.

The research questions I explored in this study addressed issues bordering on, first, the availability of delivery facilities and services to expectant/pregnant women. I also looked at the different utilization of prenatal care by pregnant women in rural and urban areas, and I addressed institutional level factors that serve as barriers to women delivering at health facilities. In my review of the available literature, I found a clear relationship between maternal mortality and the problems the research questions answered.

For instance, Der et al. (2013) asserted that delivery in a health facility reduces maternal mortality, and emergency obstetric care remains as one of the major ways to cut down the maternal mortality rate. Statistics from a Ghana Demographic and Health Survey (GDHS) (2014) report indicated that urban women have greater opportunities to use health facility services than their rural counterparts do. Moreover, Shah et al. (2015) reiterated that institutional delivery improves outcomes for expectant mothers as it reduces the risk of maternal mortality.

My research on the factors influencing place of delivery choice among expectant mothers could potentially influence expectant mothers' choices in subsequent deliveries, which could lead to the reduction in maternal and infant mortality. Findings from the study could be used to determine issues for focus and planning, the development of targets to set, and the creation of appropriate strategies to reach those targets. The

findings would be relevant and useful to reproductive health services planners to design well-tailored measures and targeted educational and preventive policy initiatives.

Background of the Study

Available literature from the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), and World Bank (2011) have defined maternal mortality as deaths happening among pregnant women or women within 42 days of termination of a pregnancy, which do not depend on duration and site of the pregnancy; it could also be a cause related to the pregnancy or a complication of the pregnancy or its management, but not due to accidental or incidental cause.

The WHO established eight Millennium Development Goals (MDGs). The MGDs was signed in September 2000 and member states agreed to achieve its goals by the year 2015. The goals commit world leaders to combat poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women. MGDs indicate the stage of development in any country (WHO, UNICEF, UNFPA, World Bank, 2012). Indicators for maternal mortality have remained relatively high for much of sub-Saharan African countries, including Ghana (Enuameh, 2016). In a 2014 report sponsored by WHO, UNICEF, UNFPA, World Bank, and United Nations Development Programme, the maternal mortality rate in Ghana was estimated at 380 deaths per 100,000 live births, whereas the 2015 MDG 5 target was 185 deaths per every 100,000 live births. Maternal health care provision remains a major challenge in developing countries (Mahiti et al.,

2015). The same report acknowledged the best efforts of the authorities in trying to bring down maternal mortality, but the rate of reduction remains below the required pace.

WHO, UNICEF, UNFPA, World Bank, and UNDP (2012) reported that the reduction of maternal mortality was a high priority area for the government of Ghana, as well as other developing countries; this shows the importance the government of Ghana attached to this problem. The warning signs had already indicated that Ghana was behind schedule on MDG 5, as acknowledged by a report from Ministry of Health (MOH), MHG, Ghana Health Service (GHS), and UNDP (2011). Like many of its peers in the developing world who failed to meet the ambitious targets set forth in MDG 5, Ghana helped highlight the difficulty in improving maternal health outcomes. Based on the prevailing rate of maternal mortality reduction, a UNFPA (2013) report indicated that a rate of only 358 maternal deaths per 100,000 live births was achievable by 2015, and that at that pace, the MDG 5 goal of achieving 190 deaths per 100,000 would only be reached by 2037. As an objective to MDG 5, maternal mortality is an indicator or hallmark of a nation's level of development (Der et al., 2013). Akum (2013) considered maternal mortality prevalence levels the most sensitive barometer to gauging the health status among developed and developing countries.

There is a consensus among developed and developing countries that quality clinical services are essential to reduce maternal deaths (Mahiti et al., 2015). Per the standard treatment guidelines of Ghana, the Ministry of Health (MOH) and Ghana Health Service (GHS) (2013) recommended that all high-risk pregnancies (pregnancies likely to have one or more risk factors) must be identified and referred to a hospital or obstetrician

for management. Treatment included all general emergency obstetric functions—apart from blood transfusions or surgery, which would be available at the referral level—and comprehensive emergency obstetric care. With such care advised, it is worrying that some women continue to deliver at home without being assisted by skilled birth attendants. Both Hajizadeh (2014) and Tey (2013) agreed that delivery in a health institution is important in curbing maternal mortality; women should routinely choose to deliver in a health facility with midwives as the sole providers of basic essential obstetric care. Inadequate use of delivery services plays a part in the relatively higher prevalence of maternal mortality irrespective of the increased coverage levels of antenatal care (Friberg et al., 2010), a common situation in the developing world. Birmeta (2013) argued that the main cause of high rates of maternal deaths is the lack of access to health services during pregnancy and at delivery, and this problem is more pronounced in developing countries than in developed ones, which may help explain the disparity. The place of delivery may help determine the survival rate of women who deliver either in a health institution or at home.

Individual factors like maternal age, parity, education, and marital status help determine the place of delivery. Conditions that also determine the place of delivery include household factors like family size and household wealth. The community where a person resides, their socioeconomic status, the community's health infrastructure, and the region could also affect a decision to deliver at home or at a health institution. Rural/urban residence, Available health facilities and the distance to health facilities can

vary for those people in rural or urban residences and can determine the place of delivery (Gabrysch, 2011).

Over the past 5 years, the northern region of Ghana has been the only region with coverage below 50%, that is, the health facilities attended by less than 50% of pregnant women according to a Multi-Indicator Survey (MICS, 2011). According to GDHS (2014), among 480 women who had a live birth in the five preceding years, 92% received antenatal care (ANC) from a skilled provider in the northern region; this was the lowest among all 10 regions in Ghana. Only 73% of women in the northern region had more than four ANC visits. Out of a total of 709 live births surveyed in the northern region, only 36.4% of deliveries were by a skilled provider, this was the lowest figure among all ten regions of Ghana. Out of 709 deliveries surveyed in the Northern part of Ghana, only 35.4% took place in a health institution.

The following are some selected articles relating to factors that may influence expectant mothers' choice of place of delivery. Adegoke and Van de Broek (2009) defined conditions that help expectant mothers decide where to deliver their babies. GDHS (2008) provided possible reasons why medically assisted deliveries continue to be low in Ghana. Ghana Business News (2012) gave reasons that inform expectant mothers' place of delivery. Hazemba and Siziya (2204) provided information on factors that affect whether expectant mothers use health services for childbirth. Sien (2012) provided information on how both supply and demand factors could affect care utilization. Stars (2006) explained that the lack of access to basic maternity care is the reason for high mortality rates in the developing world, which has led to the establishment of safe

motherhood initiative. Ikeako, Onah, and Iloabachie (2006) provided information on how maternal education influences the use of maternal health services. Fotso, Ezeh, and Oronje (2008) addressed patterns of obstetric care services use with respect to education, wealth, and parity among expectant mothers in Kenya. Kamal (2013) examined the socioeconomic correlates of preference for institutional delivery in Bangladesh. Adewemimo, Msuya, Olaniye, and Adegoke (2013) provided reasons for the need for skilled birth attendance.

Among 315 women in the Northern part of Ghana who had a live birth in the 2 years preceding the 2014 Ghana Demographic Health Survey, only 57.2% of them had a postnatal checkup in the first two days after birth. Ansariadi and Manderson (2015) intimated that some social and economic factors that contribute to maternal deaths in developing countries play out through the chosen place of delivery. Many studies have included discussions of the reasons women choose a place of delivery, particularly in the developing world. These researchers have tended to focus on one specific study area. Few studies have been conducted to examine the factors influencing the choice of a place of delivery for women by comparing expectant mothers in rural and urban settings.

Urban and rural settings in developing countries differ significantly regarding the infrastructural development, access to information and education, socioeconomic well-being, culture, and attitudes that determine the quality of various facets of life, including maternal health. A gap exists in the literature on concurrently exploring whether different factors influence the choice of place of delivery depending on whether women live in rural or urban environments or whether the influencing factors remain the same

irrespective of setting (urban or rural). Through studying the choice patterns among expectant mothers in rural (Tolon District) and urban (Tamale) settings in the northern part of Ghana, this research filled that gap in both empirically determined data or trends and scholarship. I studied Tamale and Tolon District in order to help address a problem that had not been researched in that area before.

The maternal mortality rate in Ghana continues to be a challenge for the country's overall health and development agenda, and the many efforts to address the situation have not been successful, according to various reports by the United Nations and many of its international bodies. The inclusion of maternal mortality as one of the United Nation's MDGs shows the urgency of the problem. Research has shown that one of the main contributing factors for high rates of maternal mortality in developing regions has been the enduring practice of delivery outside of health facilities. In developing countries like Ghana, institutions of care are probably the only places with the personnel and equipment to successfully deal with any challenges and complications associated with pregnancy and childbirth. My empirical examination of the factors influencing women's place of delivery choice, comparing expectant mothers in rural and urban settings, may provide the Ministry of Health with reasons to enact specific policies to mitigate the challenges detected.

With empirical evidence, the Ministry of Health leaders would know which resources to allocate where to address any differences in rural and urban infrastructures and attitudes. Specifically, data generated from the study may be useful to policymakers in the two districts to properly plan and implement appropriate measures to reduce

maternal and infant mortalities based on my research results. The information may help them determine the issues to focus on and plan for, realistic targets to set, and appropriate strategies to reach those targets. The findings may be relevant and useful to reproductive health services planners for designing measures and targeted educational and preventive policy initiatives.

Problem Statement

Institutional deliveries attended to by skilled and trained health workers are a measure toward reducing maternal mortality (Mahiti et al., 2015). Low uptake of skilled delivery services can lead to high maternal and infant mortalities, which are some of the problems the MDGs were created to address. Although many maternal deaths and injuries are preventable, many women fail to access and use quality maternal health care services. Furthermore, the use of health services between appears to be different depending on whether women reside in urban or rural settings. In the Northern Region of Ghana maternal deaths increased from 88 deaths in 2010 to 130 in 2011 (GHS, 2012); this increase is attributable to sociocultural practices and is a major obstacle to attaining the country's MDGs. Other factors, such as inadequate health care facilities, equipment, personnel, infrastructure, and gross ignorance, play a significant role (Yidana & Mustapha, 2014). In Ghana, three quarters of all maternal deaths occur during birth and the immediate postpartum period, but skilled birth attendance remains low and a significant equity gap exists between urban and rural settlements (Akum, 2013). For example, the rate of skilled deliveries in the rural area, Tolon District 34.6%, compared to 87.9% in Tamale (GHS, 2012); the factors causing these differences are unclear. I

conducted this study to identify and compare the factors that influence place of delivery choice among expectant mothers in rural (Tolon District) and urban (Tamale) settings in the northern part of Ghana.

Purpose of the Study

With this study, I sought to investigate factors that influence place of delivery choice among expectant mothers in rural and urban settings of northern Ghana. I used a mixed-method paradigm, but my method was predominantly quantitative. The qualitative data were from interviews with selected health workers and a focus group discussion with randomly selected pregnant women and lactating mothers, ages 15–49 years, who volunteered. The quantitative data comprised a two-stage sampling technique using a structured questionnaire to find out the reasons place of delivery choice of the expectant mothers. I used the quantitative research questions to identify the relationship between independent and dependent variables among expectant mothers at the study site. I used the focus group discussion to explore significant quantitative results by probing aspects of the factors influencing the women's place of delivery choice in rural (Tolon District) and urban (Tamale) settings in northern Ghana. This form of triangulation enriched my quantitative findings.

Research Questions and Hypotheses

The research questions and hypotheses for this study were the following:

RQ1: What informs the choice of place of delivery among pregnant women in the study area?

RQ2: What factors affect the choice of place of delivery among pregnant women in the study area?

H_0: There is no significant difference between the choices of place of delivery of pregnant women in either rural or urban settlements.

H_1: There is a significant difference between the choices of place of delivery of pregnant women in either rural or urban settlements.

Conceptual Framework

To investigate the factors that influence the choice of delivery among expectant mothers in the study area, I adopted the conceptual framework of Thaddeus and Maine (1994). This model allowed me to investigate the factors that hinder skilled delivery, and I explored this to explain why expectant mothers may or may not seek skilled care at childbirth. The four thematic areas of this framework were the following:
(a) sociocultural and economic factors, (b) accessibility to health facilities, (c) care environment and resources, and (d) availability of skilled attendants.

Nature of the Study

I used a mixed method of paradigm-shift to gather both quantitative and qualitative data. The interviews formed part of the qualitative phase of the research with some selected health workers in close collaboration with expectant mothers (community health nurses, midwives, and general nurses). I also included randomly selected participants from a group of volunteer women, expectant mothers and women with children, for a focus group discussion. The quantitative data were a representative survey with a questionnaire using a proposed sample size of 276 each from the rural and urban settings of the study site. These women were selected based on a two-stage sampling

technique: In the first phase, households were selected out of clusters/blocks of individuals I had already sampled. For the second phase, I selected individual participants from the households/blocks who would respond to items on the survey questionnaire. I collected data using survey instruments that were a modified version adopted from (Ghana Demographic and Health Survey, 2014). I measured participant demographics, such as marital status, socioeconomic status, age, and educational level.

Certain philosophical traditions informed the conduct of this study. Two main traditions included ontology and epistemology, but the philosophical stance undergirding this study was epistemology. I preferred epistemology because, according to Easterby-Smith, Thorpe, and Jackson (2008), it is the philosophical tradition that considers the most appropriate ways of inquiring into the nature of the world. Similarly, "epistemology is a way of understanding and explaining how we know what we know" (Crotty, 1998). This can provide a philosophical grounding for deciding what kinds of knowledge are possible and how to ensure they are both adequate and legitimate (Maynard, 1994).

Several authors differentiate epistemology into objective and subjective types. According to Crotty (1998), objectivists "hold that meaning, and therefore meaningful reality, exists as such, apart from the operation of any consciousness" (p. 8). Objectivists believe that an object being investigated already has inherent meaning, and the object has measurable and quantifiable properties. Subjectivist epistemology "does not come out of the interplay between subject and object, but is imposed on the object by the subject, here the object as such makes no contribution to the generation of meaning" (Crotty, 1998, p. 9). Truth, therefore, is relative rather than absolute; "it depends on time and place,

purpose and interests" (Pratt, 1998, p. 23). Therefore, the feelings and emotions of the population under study are an integral part of the subjectivist epistemology.

Within the epistemological tradition are the positivist and interpretivist doctrines. For this study, I borrowed from both positions because of the unique characteristics each contributes to answering my research questions. The positivist position is relevant to aspects of this research because it holds that the world is external (Carson et al., 1988), and irrespective of a researcher's beliefs or points of view, every phenomenon has only one objective reality (Hudson & Ozanne, 1988). For adherents of the positivist school of thought, researchers stay removed from the subjects of the study, which helps to keep them in a state of emotional neutrality (Carson et al., 2001). Easterby-Smith, Thorpe, and Jackson (2008) reiterated that the positivist position is that reality is fixed, directly measurable, and can be known.

Positivists held the view that the external objective reality they espoused was measured with no bias, using standardized instruments. They also accepted that universal or general laws exist, and these theoretical models can be developed and generalized. Positivists thought this could explain the cause and effect relationships, which lend themselves to predicting outcomes (Hatch & Cunliffe, 2006). A positivist approach is consistent with the requirements for addressing the research questions in this study. In positivism, the ideals of reasoning (values of reason, truth, and validity) focus on facts gathered through direct observation and experience, measured empirically using quantitative methods, surveys and experiments, and statistical analysis (Easterby-Smith Thorpe & Jackson, 2008; Erikson & Kovalainen, 2008; Hatch & Cunliffe, 2006;

Saunders, Lewis, & Thornhill, 2007). These characteristics align with this study, making the positivist position an important backdrop.

The interpretive position is a philosophical position on how humans interact with their surroundings (Saunders et al., 2007). The interpretation is that reality is socially constructed (Fisher, 2004) and appeals to the curiosity of the researcher. The interpretivist approach is important in this study because, as part of addressing research questions, study participants were selected to construct their understanding of trends and relationships in their social world based on memories, experiences, and expectations. This study accepted that, for participants, understanding and construction of their world is reinforced through their experiences, allowing them to develop interpretations of the quantities and statistics measured by quantitative methods.

In this study, I used a mixed-method approach with a quantitative focus. Mixed methods research incorporates both quantitative and qualitative methods (Ridenour & Newman, 2008; Teddlie & Tashakkori, 2009). According to Johnson and Onwuegbuzie (2004), this approach "involves mixing or combining quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study" (p. 17). The quantitative analysis relates various factors to how they influence the choice of place of delivery among expectant mothers, using the conceptual model developed by Thaddeus and Maine (1994). These included sociocultural factors, accessibility to a health facility, care environment and resources, and availability of skilled attendants. The qualitative aspect helped provide a deeper understanding of data from the quantitative phase because qualitative data comprised the expressed opinions of participants,

interpreted to gain an in-depth insight into the thoughts and reasons they made the choices they did, information the quantitative data were not able to provide. By adopting a mixed methods approach, I used both deduction and induction methodology for this study (Saunders et al., 2003).

Easterby-Smith et al. (2002) and Gray (2004) acknowledged a close association between the deductive approach and quantitative research, and the inductive approach is closely linked with qualitative research. Marshall (1997) explained the theoretical use of both inductive and deductive terminologies:

> When researchers first begin to open up any new line of inquiry there will be no useful theories available from which to deduce propositions for testing. Knowledge has, to start with collecting facts and then trying to find some order in them, this is the induction approach. The deduction is the technique by which knowledge develops in more mature fields of inquiry. It involves a sort of logical leap. Going a stage further than theory, data is then collected to test. (p. 17)

I also relied on themes and patterns arising from gathered data through the process of interpretation and analysis. Sanders et al. (2003) noted that the inductive approach gives the chance to have more explanation of the subject under study. I adopted a cross-sectional study because it was the appropriate design that fit the purpose and nature of this study as observational research examining and describing associations between factors and outcomes of interest for a population at a point in time. This study is descriptive and, comparatively, observes one setting that is rural and another that is urban.

Definitions

Sociocultural and economic factors: Sociocultural and economic factors that affect individuals' health-seeking behavior included educational background, age, occupation, parity, and marital status.

Accessibility to health facility: The influence of road, network distance to nearest health institution and means of transport available in various communities and individual households.

Care environment and resources: The quality of care offered in accessible health facilities and resources, the reception of health workers to clients, and other issues such as privacy in the labor wards and the ability of pregnant women to discuss the delivery position with midwives.

Availability of skilled attendants: Whether a killed attendant was at the post when women accessed care.

Assumptions

Assumptions in this study were that the respondents answered questions truthfully, providing opportunities for an accurate assessment of the research objectives, and that the participants who volunteered to participate in the study were not biased. I assumed that I did not influence participants' responses. An additional assumption was that the sample population was representative enough of the entire population in the study locations.

Scope and Delimitation

The extent of this study involved the assessment of the prevailing circumstances and factors that led women to deliver in the places they chose. One of the main reasons for this study was to produce empirical data to inform appropriate interventions by policymakers and practitioners to provide the general options for improved delivery outcomes. The specific aspects of these factors to be investigated in this study did not go beyond the major concepts of maternal health consequence, including socioeconomic conditions, education, skilled birth assistance, etc. However, I did not include in the focus of this study other related aspects of maternal health, including family planning elements like contraception, child spacing, and sexually transmitted diseases, but many of these were mentioned only to provide perspective at a point in the study. This study only considered as the primary study participants women in the age range of 15–49 years who had delivered at least once. They had been a resident in the study area for at least 3 years, and if two or more women fit the description in a household, I interviewed the mother of the youngest child. The only other group included as participants in this study were midwives and community health nurses of health facilities in the selected areas.

Although closely related, this research did not investigate neonatal care or infant mortality. The comparison of the factors influencing the choice of place of delivery among expectant mothers was done using the conceptual framework developed by Thaddeus and Maine (1994). The main concepts of this frame were the sociocultural factors, accessibility to health facilities, care environment and resources, and availability of skilled attendants.

Even though I mention maternal mortality regularly, especially in the literature review, I did not focus on determining the maternal death rate in the study areas. I referred to the maternal mortality rate for context for the research topic that was pursued and discussed the place of delivery that had a natural association with maternal mortality. All theories I mention in this study are based on concepts that remained germane to this study as directed by research questions, and they effectively set the boundaries for this research.

Thus, this study did not go beyond relating maternal health concepts like skilled and unskilled birth personnel/providers, ANC, birth preparedness, socioeconomic standing, educational background, etc., on one side, and place of delivery on another. By setting boundaries in this way, I focused my literature review on peer-reviewed studies, reports on seminars, and commentary on the concepts mentioned, to the effect that the endeavor of searching through literature, while comprehensive, also remained focused on the research questions. Peer-reviewed studies, reports on seminars, and commentary I considered in this study were commissioned, published, or released in the last 5 years. As a cross-sectional study, this study did not infer causality, meaning I did not make any interventions to any conditions and then determine whether the interventions influenced the conditions; I only indicated associations that exist between factors (affecting women's lives and choices). The findings are crucial as a starting point for developing future research.

This study's design and methods, largely on the sampling frame where clustered sampling was used in selecting the group/blocks from the wider population, random

sampling was used to select individual respondents from each cluster/block, afforded the opportunities to generalize the results to a larger population.

Limitations

This study was affected by situations outside my control despite careful selection and application. These conditions put a limit to the extent this work covered and could affect the results. Limitations of this study are possibly inherent in the research design, sampling techniques, data collection methods, etc. As a cross-sectional study, this research is limited to collecting data over a relatively short period in time. This method gave little indication of the sequence of events, restricting the study to focus more on examining associations between various prevailing factors and choices. This is minimized by using statistical analysis to approximate, which is applicable in experimental designs (Frankfort-Nachmias & Nachmias, 2008). I also did univariate and bivariate analyses. I conducted a bivariate analysis to establish a relationship between variables. I used cross-tabulation and stepwise logistic regression to assess the predictors of skilled delivery and some determinants of health facility delivery. I did this analysis because the response (dependent) variable, place of delivery, had a binary outcome (home/health facility). Selecting blocks or cluster samples produced clusters/blocks that were likely representative of the entire population, but this sampling technique did not select individual respondents/participants from the clusters/blocks who were sufficiently representative of the entire general population, even though achieving representation at the level of the individual respondents is vital to ensuring the internal validity of this study. A lack of representation on its own also means that the results may not be

generalized to the whole population. I reduced a lack of representation by using a different method in selecting the individual participants from the already identified clusters/blocks to ensure representation and consequent generalizability. Another potential methodological weakness associated with a cross-sectional study that gathered relatively great amounts of data such as this study was the problem of nonresponse. I decreased this problem by using methods such as telephone and mailings and letters to remind participants to respond, and I used a variety of incentives to get respondents to answer the questions. One of the limitations of this study was the problem of biased response, which was due to meeting a certain characteristic or set of features (or being of a stock). Recall bias was a problem because mothers had to recollect what happened in their time of childbirth, but this was minimized by limiting the reference period to the most recent delivery. Another limitation was the language barrier because not all the participants spoke, read, or wrote English. I translated the questions into the local languages where needed. The final limitation was that some of the participants did not respond honestly to the survey questions for fear I might wrongly interpret their responses. I assured them that no one would be penalized for their response to the questions.

Significance of the Study

The maternal mortality rate in Ghana continues to be a challenge for the overall health and development agenda, and many efforts to address the situation have not been successful according to reports from the United Nations and many of its international bodies. Maternal mortality's inclusion as one of the MDGs shows the urgency of the

problem to world leaders. To successfully target interventions toward reducing the problem's high prevalence rate, a thorough understanding backed by empirical data is necessary to adequately plan for the various causes of maternal mortality. According to many studies, one of the main contributing factors to a relatively high rate of maternal mortality in developing regions is the enduring practice of delivery outside of health facilities. Developing countries like Ghana lack personnel and equipment to successfully deal with any challenges and complications associated with pregnancy and childbirth. By empirically examining the factors influencing women's choice of where to deliver, comparing expectant mothers in rural and urban settings, policymakers may be able to craft specific policies that fit an environment, given the influencing factors determined. They would know where to allocate resources based on differences in rural and urban infrastructures and attitudes. Specifically, data generated from this study could be useful to the two districts as they seek to reduce maternal mortalities. The information gathered would help them determine the issues to focus on and plan for, realistic targets to set, and to suitable strategies to reach those targets. The findings would be relevant and useful to the reproductive health services planners for designing appropriate and efficient educational and preventive policy initiatives.

Significance to Theory

The scholarship comparing place of delivery choices for expectant mothers in rural and urban Ghana remains lacking. This study helped to produce data allowing for a thorough comparative analysis of the circumstances of rural women and urban women and their choices for place of delivery. The findings in this study provide new

opportunities for more research into areas related to the major research objectives or questions, which demand greater attention and focus. Other researchers will recognize the possibilities for extending the reach of the ideas in this study, which could serve as a rich source of literature and new studies.

The conceptual framework provided by Thaddeus and Maine relates directly or indirectly to the behavior of health personnel that influences health facility use and outcomes for expectant mothers. One of the factors highlighted in this research was the attitude of pregnant women to facility-based maternal health workers. This research presented compelling empirical results that facility-based health workers can study to learn and inculcate practices that redefine the quality of care provided to pregnant women. This study may inform midwives and other health workers on methods to improve care to ensure improved outcomes. This may enhance the perceptions pregnant women have of facility-based health attendants.

This study provided information that can help shape the choices women make because of how they perceive birth and the cultural traditions around it. The outcome of the study provided insight into the importance individuals' previous experiences with pregnancy and how that leads them to assess the risks associated with pregnancy. I also potentially uncovered women's attitudes to danger linked to childbirth and how they confront that or rationalized the way they dealt with it, as well as the norms and values in certain traditions that inform people about the need and importance of exploring the use of maternal health facilities. Therefore, my findings may reflect the social mood in the study locations. Putting all these together, this study provided the necessary information

for community leaders and policymakers to acquire a new way of thinking about pregnancy and childbirth. The findings of this study have potential for positive social change in the lives of women and children.

Summary

The available literature indicates that women continue to deliver in places other than approved maternity homes and clinics, and this contributes to poor maternal health conditions in the study locations and throughout Ghana and many parts of Africa and the developing world. I identified and compared factors that influence expectant mothers' place of delivery choice in rural (Tolon District) and urban (Tamale) settings in the northern part of Ghana. The conceptual framework or model I used to investigate the factors is from Thaddeus and Maine (1994). This model touched on factors that hinder skilled delivery, including the availability of skilled attendants, sociocultural factors, accessibility to a health facility, and care environment and resources. The epistemological research tradition forms the bedrock of this study, and I adopted ideas from both positivist and interpretivist positions. For versatility, I used mixed methods that combined quantitative and qualitative methods. I used this method for the opportunity to harness the best of both quantitative and qualitative and to benefit from both inductive and deductive approaches. This work sheds light on major considerations affecting women's choice for place of delivery. I explored maternal health structure in both rural and urban areas in Ghana, which brought into sharp focus matters in the wider scheme of community development and how much control women have over their right to make choices for their maternal health and the health of their unborn babies. I proceeded with certain

assumptions, including that participants truthfully responded to questions or that the research methods were rigorous enough to address the research questions and that the sample population was adequate to project research findings onto the broader population. This study was confined to women between the ages of 15 and 49 years who have experienced childbirth at least once, and I used a research approach that may not infer causality but only indicates associations. Furthermore, I acknowledged that in this study's research design, sampling methods and data collection techniques, etc., lie definite structural or systemic limitations that potentially could affect its results. In the next chapter, I review the relevant literature applicable to this study.

Chapter 2: Literature Review

Introduction

In many reviewed studies in which researchers discussed maternal circumstances that informed women's choices for childbirth and delivery, their focus was on investigating factors that exist in a single location: either rural or urban. In developing countries, however, there are significant infrastructural and attitudinal differences among populations in rural and urban spaces, including the options for their health and social lives including issues of maternity, such as pregnancy and childbirth, which are both medical and social. Infrastructural differences include road networks, building facilities (hospitals and clinics), and general social amenities. Attitudinal differences come about due to education levels, income levels, belief systems, and sociocultural practices. Because of the range of options available to each group, urban and rural dwellers face different circumstances that inform choices for childbirth and delivery. The nuances of these differences between urban and rural populations are apparently lost in the existing literature, which makes comparison difficult.

In this chapter I will provide a list of accessed library databases and search engines used in my literature search, as well as a list of search terms I used. I outlined the scope of the literature review and highlighted the primary work of key researchers. In the following segment, I presented some key definitions and terms inherent in the conceptual framework followed by an extensive review of current literature relevant to this study. The final part of this section includes my summary of this chapter.

Search Criteria/Description of Literature Search

An important part of my literature review was the use of relevant databases to retrieve relevant information for this study. Such search databases were key in that they provided quick and accurate results to my search query. Most of search engines I used had the following range of cardinal features in the search for relevant research material for this study: (a) search by publication date, (b) search by authors name, (c) search by keywords, (d) search by subject or topic, etc. Some of the relevant databases used in the literature search were Academic Search, African Journals OnLine, BioMed Central, Bielefeld Academic Search Engine, Cochrane Library, Google Scholar, JournalSeek, Journal Storage, PubMed, and ScienceOpen.

Identifying the relevant databases for literature search was only one part of my literature search strategy. Another aspect of the search strategy required finding appropriate keywords by breaking down research questions and identifying salient keywords. After deconstructing the research questions, some of the emergent keywords and phrases include *health facility deliveries, utilizing skilled delivery, health facility delivery barriers, place of delivery*, and *choice of delivery place*. After obtaining the basic search terms and phrases, I identified synonyms for these key terms because different authors use different terminologies in describing any one concept. Some of the synonyms used in place of original keywords/phrases included *skilled personnel childbirth, hospital delivery obstacles, place of delivery,* and *birthplace choices.* I plugged the keywords into the various databases to search for relevant literature.

Items I included as part of the literature review were studies, reports, or publications produced in the past 5 years. These studies came in different types and sources. Some of the literature were peer-reviewed empirical studies from a gamut of database search platforms. I also included as part of the literature review reports from seminars commissioned or sponsored by international and regional bodies, such as the United Nations, World Bank, and WHO, with the expertise, capacity, and oversight to operate and research in the areas germane to this study's purposes and questions. I also acquired from some local, municipal, and national-level reports derived from important ministries, departments, and agencies whose interests lie with maternity and population cases. Other sources of data were the Ministry of Health, the Statistical Service, and Health Services. Documentary details from hospitals and clinics provided relevant statistical data in my investigation. Over the years, these resources have produced a wealth of knowledge pertinent to the purposes and research questions of this study.

The Gap in the Literature

Among 315 women in the northern part of Ghana who had a live birth in the 2 years preceding the 2014 GDHS, only 57.2% had a postnatal checkup in the first 2 days after birth. Ansariadi and Manderson (2015) intimated that some social and economic factors contributing to maternal deaths in developing countries play out through the chosen place of delivery. Many researchers have discussed the reasons for the choice of place of delivery among women, particularly in the developing world. Such researchers have tended to focus on one study area or another, rather than comparing. Few studies

have been used to examine the factors influencing the choice of a place of delivery for women by simultaneously comparing expectant mothers in rural and urban settings.

Urban and rural settings in developing countries differ significantly regarding the infrastructural development, access to information and education, socioeconomic well-being, culture, and attitudes that determine the quality of various facets of life, including maternal health. There is, therefore, a gap in the literature that concurrently explored whether different factors influence the choice of place of delivery depending on the rural or urban environments women may be living in or whether the influencing factors remain the same irrespective of women's setting (urban or rural). Through studying the choice patterns among expectant mothers in rural (Tolon District) and urban (Tamale) settings in the northern part of Ghana, this research filled that gap in both empirically determined data or trends and scholarship. More specifically to Tamale and Tolon District, this study was necessary because it addressed a problem that has not been researched before.

Social Implications of the Study

The maternal mortality rate in Ghana continues to be a challenge for the nation's overall health and development agenda, and the many efforts to arrest the situation have not been successful, as the various reports by the United Nations and many of its international bodies corroborated. Its inclusion as one of the MDGs suggests the urgency which world leaders consider the problem of maternal mortality. One of the main contributing factors for the relatively high rate of maternal mortality in developing regions researchers have identified is the enduring practice of delivery outside of health facilities. In developing countries like Ghana, institutions of care are likely the only

places with the personnel and equipment to successfully deal with any challenges and complications associated with pregnancy and childbirth. By empirically examining the factors influencing women's choice of place of delivery, comparing expectant mothers in rural and urban settings, may assist the Ministry of Health in developing specific policies to mitigate against the challenges this population faces.

The Ministry of Health would know which resources to allocate where because there are differences in the rural and urban infrastructure and attitudes and interventions should address these differences. Specifically, data generated from this study would be useful to policymakers in the two districts to properly plan and implement appropriate measures to reduce maternal and infant mortalities. The information may help them to determine the issues to focus on or plan for, realistic targets to set, and appropriate strategies. The findings would be relevant and useful to reproductive health services planning for designing well-tailored measures and targeted educational and preventive policy initiatives.

Conceptual Framework

According to Thaddeus and Maine's (1994) model, reasons expectant mothers may or may not seek skilled care at childbirth were captured in some thematic areas, including the sociocultural factors, accessibility to health facilities, care environment and resources, and availability of skilled attendants.

Figure 1 is a diagrammatic expression of the conceptual framework showing different factors that can influence the choice of place of delivery.

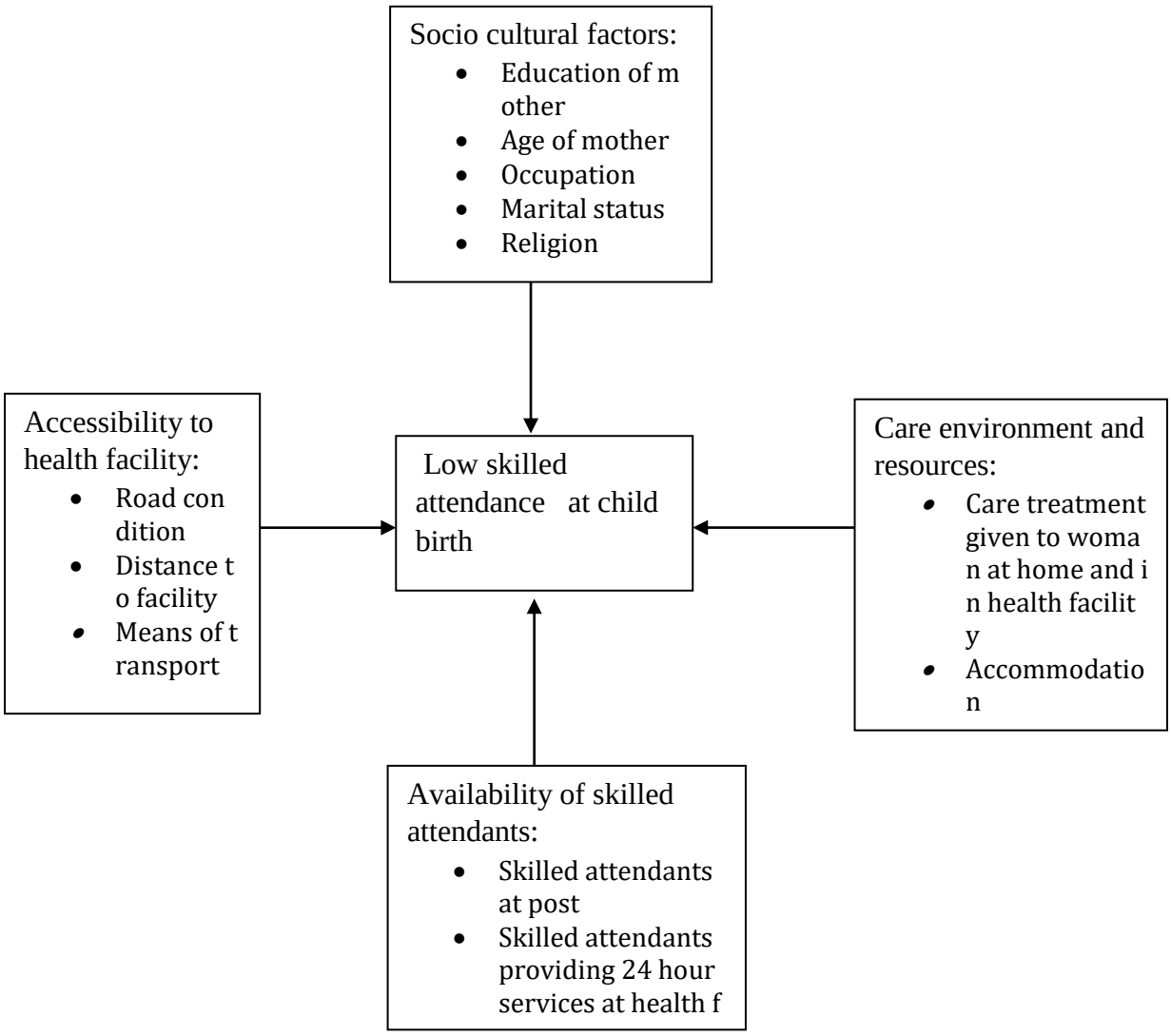


Figure 1. Conceptual framework (adapted from Thaddeus and Maine, 1994).

Global Picture of Maternal Morbidity and Mortality

Over the course of the last decade, the WHO (2012) has maintained the definition of maternal mortality as:

> The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related or aggravated by the pregnancy or its management but not from accidental or incidental cause (p 4).

Many estimates of the maternal mortality rate exist from different sources, with approximations showing significant numbers: 287,000 maternal deaths were recorded in 2010 globally, and sub-Saharan Africa and South Asia together contributed 85% of this figure (WHO, 2012). In the same 2012 report, WHO claimed that almost 800 women die daily from pregnancy, childbirth, and attendant complications, with approximately 99% of such incidents taking place in lesser developed economies.

Results from a 2014 reported sponsored by WHO, UNICEF, UNFPA, World Bank, and UNPD estimated the global maternal mortality rate in 2013 at 210 per 100,000 live births. In real numbers, according to the same report 289,000 maternal deaths were expected in 2013 globally (WHO, 2014). The same report identified women in sub-Saharan Africa were at a 1 in 38 lifetime risk of maternal mortality in 2013, compared to 1 in 1,800 for Eastern Asian women and 1 in 3,700 for women in developed regions (WHO, UNICEF, UNFPA, World Bank & UNPD, 2014). The UNFPA (2012) indicated similar figures, estimating a 1 in 39 risk for women in sub-Saharan Africa versus an industrialized region ratio of 1 in 4,700. According to these estimates, a significant number of women die from childbirth or pregnancy or any of their attendant complications. On the concentration of maternal deaths, estimations are strikingly similar both on a daily and yearly basis. Out of the estimated 1,000 women who die from

maternal related causes daily in the world, developing countries contribute about 99% of all these cases, with Sub-Saharan Africa alone at 50% (WHO, 2014). Yearly figures show that of the 289,000 maternal deaths estimated globally in 2013, the developing world had close to all such cases (WHO, 2014). According to Adegoke et al. (2012) only sub-Saharan Africa contributed 57% of the 358,000 global maternal deaths. Choulagai et al. (2013) estimated that women in the developing countries, with low income who die from maternally related conditions topped with 284,000, representing as much as 99% of global maternal deaths, with sub-Saharan Africa at 162,000 and Southern Asia at 83,000. Estimates of the rate of reduction of maternal mortality have not shown any significant differences across various sources.

Globally martenal mortality ratio decreased by 45% between 1990 and 2013, however, the targets for MDG 5 were not realized by many Sub-Saharan African and Southern Asian countries (WHO, UNICEF, UNFPA, World Bank, & UNPD, 2014). Choulagai et al., (2013) added that the global maternal mortality ratio decreased almost by half, from 400 maternal deaths per 100,000 live births in 1990 to 210 in 2010. Annually, 210 million women get pregnant across the world, and about 8 million suffer life-threatening complications related to pregnancy and childbirth. Recently, there has been a greater awareness and acknowledgment of the nexus between maternal health and development, which explains why a maternal mortality reduction rate of 5.5% between the years of 1990 and 2015 was included when world leaders developed the MDGs.

In many of the studies I reviewed in this research, including the work of various postpartum researchers and global bodies, maternal mortality was discussed together with

other adverse outcomes of pregnancy and childbirth, including infant mortality and morbidity. Shah et al. (2015) linked maternal and newborn health by stating that continuous care during gravidity, delivery, and the postpartum period was an essential aspect of optimizing survival for both mother and child. Both Afulani (2015) and Lawn et al. (2011), in discussing the occurrence of stillbirths globally, linked maternal and infant outcomes. These researchers indicated that both mother and child share the same period of being at most risk, the childbirth and postpartum period.

Studies reviewed so far also clearly showed that the same measures that were recommended for practice to reduce maternal mortality, and indeed the same factors of improving maternal health outcomes also applied to infant mortality and morbidity. For instance, Zere et al. (2012) and WHO, UNICEF, UNFPA, and World Bank (2012) affirmed that skilled attendants at birth remained one of the most effective ways of lowering maternal and perinatal mortality and morbidity. Furthermore, distance to health facilities and availability of transportation means, which affect maternal health outcomes, also helped to determine the chances of newborn survival, as Bhutta et al. (2014) contended. Notwithstanding the direct convergence of issues surrounding the discussions of factors affecting both maternal and infant mortality, matters of infant, newborn, or neonatal mortality and morbidity were beyond the scope of this study.

As natural as it is, it is public knowledge that the period of pregnancy can present substantial challenges to women including the threat of injuries, disabilities, and death. Given that the delivery process can result in unexpected complications, thereby making health facility delivery crucial (Enuameh et al., 2016). About three quarters of all

maternal deaths occur during birth and in the immediate post-partum period (Enuameh et al., 2016). Meanwhile, preventable causes, such as post-partum hemorrhage, sepsis, obstructed labor, and eclampsia, are known to contribute to maternal mortality significantly (UNDP, 2014). Autopsy reports from the Korle-Bu Teaching Hospital found that out of 634 pregnancy-related deaths recorded for the community, 517 (81.5%) of them occurred within 24 hours of admission into a health institution (Der et al., 2013), whilst 117 (18.5%) occurred in a health facility. Of all the cases recorded, 504 (79.5%) were identified to result from direct obstetric factors. These included hemorrhage (21.8%), abortion and its complications (20.7%), hypertensive disorders in pregnancy (19.4%), ectopic gestation (8.7%), uterine rupture (4.3%) and genital tract sepsis (2.5%). Hemorrhage, abortion, and hypertensive disorders, infections and ectopic gestations rounded off the top five factors of maternal mortality. Pregnancy-related deaths identified to result from indirect obstetric causes were 130 (20.5%). These were infections outside the genital tract, (9.2%) anemia (2.8%), sickle cell disease (2.7%), and pulmonary embolism (1.9%), and disseminated intravascular coagulation (1.3%). As well as exhibiting the highest maternal mortality levels, women in rural sub-Saharan Africa also suffered the lowest access to quality health service delivery exemplified by an enduring urban-rural divide in spite of significant improvement in maternal health conditions post 1990. The share of skilled personnel assisted births among all births continues to be low (WHO, UNICEF, UNFPA, World Bank & UNPD, 2014). Connecting the risk of pregnancy-related death to socio-economic conditions of women, a UNFPA (2012) report asserted that poorer, marginalized women stand a greater risk of dying. Delivering in

health facilities under the supervision of skilled personnel created possibilities for obstetric and emergency care.

A major part of the literature review described studies of the relationship of maternal mortality with the issues in the research questions. This study focused on delivery facilities and services available for/among (expectant/pregnant) women and literature review uncovered the nature and characteristics of previous work that addressed this subject. In their quest for establishing the availability of maternal and neonatal health care services and assessing their levels of utilization, Wilunda et al., (2015) carried out a cross-sectional study of health facilities in the Napak and Moroto districts. Data collection proceeded by direct observation, interview of both women accessing antenatal and postnatal care and indeed health staff, as well as an archival exploration of clinical registers and records. Researchers also analyzed and summarized data by the use of frequencies and percentages. The study found that essential infrastructure, equipment, supplies, and even personnel to provide maternal and neonatal services were lacking, as well as an under-utilization of existing services related to antenatal, intrapartum and postnatal care. The study concluded that availability and accessibility to both skilled birth attendants, emergency obstetric care services was a requirement for reducing maternal and newborn morbidity and mortality in the study area.

This research explored the difference in the extent of utilization of prenatal care in health facility deliveries among pregnant women in rural and urban areas. Previous literature germane to this research question, therefore, discussed factors that affect utilization of health facilities, with a description of the study clearly outlined.

Thematically analyzing a systematic literature review with regards to evidence of what encouraged or blocked facility-based deliveries in developing countries. Bohren et al. (2014) found that key barriers to utilization of facility-based delivery included traditional and familial influences, distance to facility, cost of delivery and a low perception of quality of care and fear of discrimination. This qualitative study was aimed at building an understanding of the various elements that were influential in informing decisions of mothers to choosing a place of delivery. Bohren et al. in this work investigated 34 previous studies from 17 countries with a confidence level of findings assessed through the Confidence in the Evidence from Reviews of Qualitative research method, and a study quality evaluated by means of the Critical Appraisal Skills Program checklist.

Reviewing literature about elements within the research questions would effectively identify studies which are concerned with institutional level factors that serve as barriers to delivering in health facilities. Bohren et al., (2014) undertook a cross-sectional study of six rural village development committees in Chitwan district using a structured questionnaire to gather data from a total of 673 mothers who had delivered within a 1-year period, concluded that institutional delivery was influenced by family, as well as husbands of expectant women. Bohren et al. performed a univariate and multivariate logistic regression analysis, they also did a stepwise backward elimination to identify the key factors. They did affirm that caste/ethnicity; support for institutional delivery by the husband; the decision on the place of delivery taken jointly by women and family members had a significant upswing in the potential for institutional delivery. A perception that skilled health workers are always available and a facility located within

1 hour's traveling distance also had a significant upswing in the potential for institutional births. Conversely, lacking in knowledge about the existing health care infrastructure potentially caused a significant downturn in institutional-based delivery.

Efforts Made at Reducing Maternal Mortality in Ghana

Over the years Ghana adopted a number of strategies to deal with some specific maternal health problems, including most significantly the introduction in 2008 of free maternal care for all pregnant women under the umbrella of the Ghana National Health Insurance Scheme (Dzakpasu et al., 2012). Maternal health has been augmented by providing continuous care before, during and after birth (Shah et al., 2015). Ghana's national health policy recommends postnatal follow-up review by a trained provider for mother and newborn (WHO, 2014). Such a strategy according to Adegoke's, (2009) enhances maternal outcomes. Adegoke also proposed the need to make provisions for appropriate care that is readily accessible to deal with potential complications for pregnant women. He also added that effective management for the first 24 hours post-delivery and the supervision of skilled birth attendants at the time of delivery was key to the survival of mother and child.

Pandey (2012) suggested that strategies must be put in place to address some of the economic, social, and physical factors that cause poor maternal health outcomes. Pandey reiterated that the utilization of maternal health service is determined by socio-cultural, economic, and health system factors that pertain at the level of In spite of the efforts put forward by developing countries to the community, household, individual, the environment and even health care infrastructure.

According to UNICEF (2014), only 48% of deliveries in Ghana were facility-based. Delivering in a health facility that provides high-quality obstetric delivery helps reduce the prevalence of maternal mortality, cut down on the prevalence of maternal deaths, there still exist a multiplicity of challenges and barriers to the attainment of this goal. There is a need to introduce greater equity into the distribution of skilled health personnel in achieving this milestone (Snow et al., 2011). (Snow et al., 2011) and socio-cultural obstacles to the use of obstetric services (Akum, 2013).

Abortion-related complications are a significant contributor to maternal deaths in Ghana (Lee et al., 2012; Der et al., 2013), but it is unclear why the Ministry of Health has not included family planning services in the health insurance benefit package of maternal health care (National Health Insurance Scheme, 2015).

In 2012, key stakeholders proposed changes to the Ghana National Health Insurance Act (Act 852) to include a family planning package (NHI Act, 2012) but is yet to come into force (Chaitkin et al., 2015). The government has also tried to increase the number of health centers at various districts. A WHO, UNICEF, UNFPA, World Bank and UNPD (2014) sponsored report identified case tracking as a key aspect of the effort to reduce maternal deaths in developing countries even with an acknowledgment of the difficulty in tracking cases due to the absence of complete and accurate registration systems. In Ghana, MMR measurement is not very accurate. These are due to the poor vital registration system, imperfect data collection practices in health institutions. Other challenges include misclassification of maternal deaths, and difficulties tracking births that do not occur in health facilities (Kyei-Nimakoh et al., 2016). WHO, UNICEF,

UNFPA, World Bank and UNPD (2014) reported that though Ghana's 2013 MMR was 380 per 100,000 live births, there was still room for possible adjustments down to 210 or up to 720. Planning for such a situation becomes less straightforward. Maternal death reviews are an essential means of capturing maternal deaths. Maternal audit aids in the estimation of maternal mortality and provides insight into ways of improving practice and preventing future maternal deaths. The UNFPA (2013) intimated that investing generously and speedily towards the provision of accessible family planning, clean delivery, oxytocin, and misoprostol can help manage postpartum hemorrhage while treating hypertensive disorders can potentially cut maternal mortality down. Over the years, WHO reports have regularly acknowledged the efforts made by governments regarding investing resources and outlining policies towards improving maternal health outcomes. The UNFPA (2013) reckons that at the point of providing access to Emergency Obstetric and Neonatal Care universally, there stands to be a corresponding 90% drop in maternal deaths to 38 per 100,000 births. Interventions like emergency obstetric services, both fundamentally and thoroughly applied, have been recommended for pregnant women (Fournier et al., 2009). Even in situations where the life of women may be at risk, obstetric services could be provided through ANC, delivery care, and postnatal care to help cut down on the rate of maternal mortality (www.unfpa.org). Maternal deaths mostly occur around birth time (Kutui et al., 2015). The first few days postpartum represent the most dangerous period for the mother (Fournier et al., 2009).

The provision of a supportive company, practicing clean delivery, and detecting and managing complications associated with maternity are some of the elements of safe

delivery (Shah et al., 2015). Other factors of improving opportunities for safe delivery include the capacity to readily provide cesarean section, blood transfusion, and surgical apparatus as well as medication (Say et al., 2014). Scaling up skilled attendance at deliveries within health facilities is one of such schemes measures.

Skilled Birth Attendant

The centerpiece of reducing maternal deaths is the message of ensuring a trained professional at delivery for all (WHO, 2013), a message which clearly speaks to the vital role skilled personnel assisted delivery play in reducing maternal mortality. Indeed, the importance of skilled birth attendants cannot be overstated. Various sources have at different periods expressed the crucial role competent attendants can play in reducing the prevalence of maternal mortality (WHO, 2014). There is even a national policy (statement) regarding the rights of every woman to have access to skilled care during delivery. Estimates project that up to 90% of maternal deaths are avoidable provided health personnel to take the appropriate measures during the intrapartum period (Crowe, 2012). The right kind of care is, therefore, essential to improve the outcomes of maternal health care, most crucially in situations where delivery engenders complications. Ekirapa-Kiracho et al. (2011), suggested that maternal mortality can be reduced rather effectively by making available skilled care at the time of birth. Ghana's MOH (2011) reported that delivery under the supervision of skilled birth personnel in health facilities results in the improvement of maternal health outcomes. The presence of skilled attendants during delivery, therefore, is an important strategy in the effort to lower the prevalence of maternal mortality especially in developing regions which have the highest incidences of

maternal deaths (WHO, 2014). Kyei-Numakoh et al. (2016) stated that one of the main challenges of reproductive health care is the absence of skilled personnel at births, and factoring in problems faced by care providers and the opinions and expectations of users should form part of the strategy to scale up skilled health care services. A WHO (2014) report indicated that any country with over 80% of births supervised by skilled attendants has less than 100 deaths per 100,000 live births. This evidence shows that the presence of skilled attendants during delivery is an important strategy in the effort to lower the prevalence of maternal mortality. This is necessary for the developing regions which have the highest incidences of maternal deaths (WHO, 2014). According to Choulagai et al. (2013), skilled birth attendants do not only provide services during delivery but also are capable of providing care before and after birth.

But skilled delivery remains a challenge in Ghana, according to a MICS (2011) Ghana report pregnant choosing who to aid them in delivery, along with other maternal health outcomes, are decisions which are influenced by individuals, household and community factors (UNDP, 2011). A study in Ghana associated an educated partner to/with skilled birth delivery (Esena et al., 2013). Expectant mothers are also influenced by cultural, geographic, and structural reasons in their choice of the kind of care they receive in the period of their pregnancy and delivery (Phiri et al., 2015). Cultural obstacles such as requiring the permission of male relatives prevent women from making independent decisions about skilled birth support during delivery. Other factors, such as perceived quality of care, may also contribute to the situation (Kyei-Nimakoh et al., 2016). Skilled providers include doctors, nurses, nurse/midwife, or community health

officers (Ghana Statistical Services (GSS), National Public Health Reference Laboratory (NPHRL) & Ghana Health Services (GHS), 2014). These individuals have been educated and trained in the skills needed to manage normal pregnancies, childbirth, and the immediate postnatal period. They also have the skills in the identification, management, and referral of complications in women and newborns (WHO, 2010).

Crowe et al., (2012) projected that the number of sub-Saharan African women to deliver without trained birth personnel even in 2015, which was ideally supposed to mark the achievement of MDG 5, at over 12 million. The availability of skilled personnel to supervise delivery and be in a position to promptly deal with possible complications, backed by functional referral systems for the purpose of administering specialized care where necessary, is a key method in curbing maternal deaths (Gabrysch 2009). Skilled personnel is given the needed training to create an enabling environment which is equipped with supplies for delivery to take place. The World Health Organization (WHO, 2014) pointed to the development of professional midwifery over the course of the 20th century as the cause for the dramatic declines in maternal deaths within industrialized countries.

In Ghana, midwives are the key providers of maternity services, which makes their recruitment, retention and equitable distribution worth considering in any conversation regarding maternal health workforce (Kyei-Nimakoh et al., 2016). However, the number of midwives in Ghana is not adequate, especially in light of a UNFPA, ICM, WHO (2014) sponsored report warning that aging in their current population in Ghana may cause a sharp reduction in their number over the next decade.

Even though there is still an inadequate number of midwives, there has actually been an upturn in the number from 3780 to 4185, as well as 273 more nurses dedicating up to about 80% of their working hours on maternity-related services.

UNFPA (2014) report estimated that Ghana has about 4458 nurses/midwives/auxiliary nurse midwives, as well as 1123 physicians and general practitioners. One reason for this upturn has been to give the formal training of midwives a boost with the availability of a 2-year post-basic program. This aims at training community health assistants and nurses from deprived locations towards increasing the number of midwives in far to reach areas. The Ministry of Health made up the numbers by shortening the training period (MOH, 2014). The government of Ghana has enhanced the profile of midwifery education by starting a direct-entry Bachelor of Science programs (UNFPA, WHO, ICM, 2011). However, attracting and retaining midwives is hampered by factors such as poor remuneration, lack of incentives, inadequate resources and lack of social amenities especially in rural parts where such personnel is most lacking (Ageyi-Baffour et al., 2013). One cardinal challenge of producing midwives at an accelerated pace remains the inability of the government to retain highly trained personnel (Lori et al., 2012).

Antwi (2011) observed that there is an apparent intent to reduce the monetary expenditure in training and retention of maternal health professionals. The MOH did this by training personnel who are considered less likely to further their career, even though the focus on increasing the number of auxiliary personnel has consequences for quality care, and leaves institutions short of the required workforce for the long term (Antwi,

2011). A UNFPA, WHO, and ICM, (2014) report argued for a deliberate process of developing professionally trained midwives instead of auxiliary personnel since care from professionally trained midwives is key to reducing maternal mortality. Apart from midwives, other maternal health professionals include obstetricians, gynecologists, and nurses. According to a UNFPA, WHO, ICM (2014) sponsored report, Ghana had an estimated 549 obstetricians and gynecologists, a much significant improvement over its reported 2011 figure of 64 obstetricians and 273 more nurses dedicating up to about 80% of their working hours on maternity-related services. For Adegoke et al. (2012) and MOH (2012) however, having different kinds of skilled personnel undertaking maternal care duties can be concerning, especially in situations where there are different standards of training. Professionally trained skilled birth attendants have the capacity to provide maternal care ranging from ANC, actively managing the process of childbirth, and identifying delayed progress in labor. Additionally, the health workforce needs to have proper working equipment such as vacuum extraction in vaginal deliveries, etc.

A significant number of women still give birth at home without the presence or supervision of skilled personnel in developing countries (Montagu, 2011). Even though Yidana and Mustapha (2014) found in their study, the general opinion is that at the hospital, doctors and nurses are there to help when complications are detected. Kyei-Nimakoh et al. (2016) affirmed that women do not readily access formal maternity care units and take advantage of skilled birth attendants' services even though they may very much be aware of the merits of doing so. It is a point of concern that compared to attending ANC, delivery under the supervision of skilled birth attendants is quite poor

(GSS, GHS, & ICF International, 2015), especially among vulnerable populations. Studies carried out by Afulani (2015) in sub-Sahara Africa found that many women do not use skilled personnel in delivery because in some cases their sociocultural circumstances do not encourage. For others, delaying medical care may be caused by the tendency to impute certain health conditions like eclamptic seizures to spiritual causes rather than medical causes (Moyer, 2013; Ghazi, 2012). The argument for skilled birth attendants to supervise births is quite clear. Qualified health professionals with the know-how as midwives, doctors, and nurses who are proficient in dealing with various challenges that arise during pregnancies, childbirth and in the period immediately after birth remain the most capable people to ensure survival and well-being of women during their period of maternity.

Birth Preparedness

The concept of birth preparedness and complication readiness is an extensive package with the objective of encouraging timely access to skilled maternal services. Birth readiness provides opportunities for pregnant women and their families to be proactive preparing and making decisions for delivery. Preparation is key because of the risk of sudden and unpredictable life-threatening complications capable of killing or injuring during pregnancy or childbirth. Many groups that advocate and implement safe motherhood programs in the world consider birth preparedness as part of their strategy. Determining a health facility to attend, finding out about the skilled attendants available, arranging for transportation from home to health institution, etc., are all aspects of birth preparedness (Kabakyenga et al. 2011). Increasing efficiency and the timeliness of major

services for mothers during delivery would require considering both birth preparedness and complication readiness as strategies (BP/CR). Such a strategy would be founded on the premise that delays in making the decision to seek care or in reaching a health facility, or to receive appropriate care while at the health care center can be curtailed using preparation for delivery and potential complications (Lerberg et al., 2014). This suggests that birth preparedness and complication readiness are complementary. During labor, it is important that quality emergency services at a designated referral facility that can provide different forms of obstetric care are identified. Also, the appropriate arrangement for transport must be in place in case of an emergency.

Key Messages for Birth Preparedness

UNDP (2011) reiterated that the message of birth preparedness is to organize and mobilize community and families of pregnant women to intervene, for instance, towards transporting expectant mothers to medical facilities before, or at the onset of labor. The same paper highlights a social determinant of maternal health citing a birth preparedness program in Cambodia. In Cambodia, village leaders, local midwives, and community volunteers organized meetings and group events, to create awareness that resulted in a 22% upswing in ANC. This country also realized a 33% rise in skilled personnel (especially midwife) assisted births, and a 28.1 % increase in hospital referral within the space of just over a year. In Ghana community plays a significant role in making a decision to search for health care. The contribution of the community is key, and its support would in turn help increase skilled birth attendance even though opposition remains (Crissman et al., 2013).

Generally, the vital message of birth preparedness messages would cover the following points:

- Having a skilled provider attend each birth
- Knowing the signs of complication before, during and after delivery
- Being prepared for a clean delivery
- Having some cash available for emergencies
- Having identified transportation for emergencies
- Having identified person to accompany the women to the hospital in emergencies
- Knowing where to go if an emergency occurs

Based on a study where participants shared their opinions that their level of preparedness for birth, Kabankyenga et al., (2011) found that only 19 % of participants showed awareness of in-depth knowledge of at least three vital signs of danger during the periods of pregnancy, childbirth and postpartum. Kabakyenga's study indicated that, among women in rural Mbarara district in Uganda, a clear association emerged between identifying vital signs of danger during pregnancy or post-partum, and birth preparedness.

Traditional Birth Attendants

Many people who deliver at home seek assistance from a traditional birth attendant or relative, a worrying situation which presents a difficult challenge to achieve positive maternal health outcomes Akum (2013). Traditionally, the principal provider of delivery services was the untrained birth attendant which continues to be the practice

among the poorest communities in developing countries. In many traditional rural settings, various practitioners can attend to births. Traditional practitioners include traditional birth attendants (TBAs), diviners, spiritualists, and herbalists (Aryeetey et al., 2015; Hill et al., 2014). TBA is usually an older woman nearly past the age of menopause who must have had one or more children, living and operating in her community and sometimes neighboring communities, even though her operations may not legally be recognized. Her role has to do with childbirth where she commands power and respect in their communities. In terms of influence regards to deciding a location for delivery, older women hold significant sway (Moyer 2013; Oyerinde 2012; Gebrehiwot, 2012; Sorensen 2011; Shiferaw 2013). They sometimes have more say that the husbands of these expectant mothers (Gebrehiwot 2012; Oyerinde, 2012). This is more so throughout Asia and sub-Saharan Africa (Gebrehiwot 2012; Moyer 2013; Oyerinde 2012). Reasons such as the freedom to practice different belief systems like herbal medicines which are thought to quicken the process of delivery, options to choose any birth position make women opt for unconventional approaches to maternal care (Kyei-Numakoh et al., 2016). These are factors that give TBAs an important role to play in traditional societies where their influence still endures. Their status, as alluded to earlier, and the ability of most rural families to afford their services because of relatively low costs of remuneration, or a token gift, in both cash and kind, make them a still attractive option for most rural dwellers in need of maternity care. Traditionally their activities have included being in charge of the major important process of labor, these are cutting the cord, cleaning the mother, bathing the baby, and disposing of the placenta. TBAs also do postnatal visits,

during which she massages the mother and baby and bathes the baby. The education of pregnant on hygienic practices both as an individual and in their surroundings, dietary needs, prevention of infection and healthy living practices such as exercising, having sufficient rest and reducing their workload have been part of the responsibilities of TBAs.

Numerous studies have substantial levels of patronage of TBA services, especially in Africa. The reasons for the preference of such services are often socio-cultural in nature (Dako-Gyeke et al., 2013).

Madhivanan et al., (2011) addressed some weaknesses of TBAs in their practice that are detrimental to maternal and childbirth. These include the use of unsterilized equipment, pouring water on a child if he or she fails to cry after birth, blowing into the baby's ear, restricting the early initiation of breastfeeding as well as the lack of information on vertical transmission of HIV/AIDS. Madhivanan et al. revealed that some also administered both allopathic and herbal medicines.

In spite of the good work they are capable of doing, TBAs are unable to effectively, in most cases, deal with the complications and challenges that are related to pregnancy and childbirth. TBAs, including those who have undergone traditional trainin are not considered by the WHO as skilled attendants. The WHO indicated that it may be useful for training the TBAs to stop their use of harmful practices, and to strengthen their ties with the health care system through danger sign recognition and referral. In the past the WHO had emphasized the integration of TBAs into the modern health system through training, supervision, and technical support. The authorities in Ghana seem to be heading in this direction as in recent times TBAs in Ghana have had their duties limited to

primarily supportive non-birthing (Aryeetey et al., 2015). The recent lack of support notwithstanding, TBAs may still be relied on by expectant mothers because of some deep-seated beliefs in their traditions (Dako-Gyeke et al., 2013). Other views exist that speak to the contributions TBAs have made to the reduction of maternal mortality. If traditional birth attendants (TBAs) are left out of the safe motherhood agenda, it would cause families who rely solely on such services for their maternity needs to continue to experience elevated levels of maternal mortality (Prata et al., 2011). TBAs are credited or seen to exhibit a higher degree of empathy and pass off as more trustworthy than their counterparts in unconventional practice (Akum, 2013). Titaley et al. (2013) found the work of traditional birth attendants to be cardinal in the post-natal period, enjoying a good level of trust in some communities. Traditional birth attendants and relatives provide a sizeable amount of the required post-partum care in many low-income areas (Buehi & Akintujoye, 2012). TBAs can and do provide emotional and social support to the mother and can provide key health education messages, many women only rely on TBAs where there are no skilled birth attendants available or where they cannot afford the cost of professional services. TBAs have their own understandings of disease etiology, and their decision making is limited as to the location of delivery (Moyer 2013; Oyerinde 2012; Gebrehiwot 2012). The decision to deliver in a health facility or not may be beyond the control of the expectant mothers themselves, but be influenced by older more experienced women, husbands, family members, neighbors, etc., (Gebrehiwot, 2012; Moyer, 2013; Oyerinde, 2012; Turan, 2012). Home delivery, however, is more than just TBA. In their study referred to earlier, Yidana and Mustapha (2014) reported

that up to about 27.5% of home deliveries was facilitated by mothers-in-law, with grandmothers aiding delivery for about 10.8% of the women they studied. Deliveries by mothers of the pregnant women made up approximately 5.8% with only 2.5% of women surveyed being assisted by trained traditional birth attendants. Home delivery, therefore, is also about who expectant mothers trust, with close family members seemingly more preferred.

In the Butajira community where Roro et al., (2014) carried out their study, women in labor were regularly observed to spend some time at TBAs before being moved on to health facilities and considered as a client dependent factor of not seeking facility-based delivery. Findings also indicated that TBAs held on to women under their care even after the onset of complications (Roro et al., 2014). The trust TBAs enjoy from many expectant mothers makes it possible for them to be counseled to choose home delivery (Roro et al., 2014). The kind and extent of their impact on maternal health outcomes are rather burdensome to determine, given that there has not been an extensive engagement by authorities with traditional birth attendants (Aborigo et al., 2015). In health care circles TBAs are not accepted as substitutes for skilled birth attendants. Even though in some cases authorities are trying to find a role for them in the structure of maternal health, the training of traditional birth attendants may serve as a reason for mothers not to deliver at health facilities. They do not qualify as skilled birth attendants whose services reduce maternal deaths (Harrison, 2011).

The Demand and Hindrances to Maternal Health care

The success of efforts to improve the use of reproductive health care depends on an understanding of the importance of factors affecting the demand for services. Literature from various sources indicated that several factors hamper or enhance delivery of maternal health. The utilization of health services is influenced by many factors including distance to a facility, availability of transport and cost of receiving care (Akum, 2013). Roro et al., (2014) reiterated that poor reception and improper handling of expectant mothers are issues of concern in maternal care delivery, in this study participants underscored this as problems in health facility-based deliveries. Those who had experienced such behavior previously would not advise others to go to health institutions when they are in labor. Akum's (2013) added that poor attitudes of facility-based health workers deter many women from seeking assistance from health institutions, particularly institutional delivery. Indeed in both rural and urban settings, Roro et al., (2014) detected a relationship between place of delivery and previous pregnancy experience to the extent that women with second time pregnancies were more likely to deliver at home than those pregnant for the first time. A woman may probably give birth at a facility during her first delivery (Wild, 2010) or if she had a previous obstetric complication (Story, 2012). However, if a woman delivered her first child without complications, utilizing a facility for subsequent births is often viewed as unnecessary (Mwangome, 2012; Sorensen, 2011). Facility-based delivery is only be considered after their first option of delivery at home becomes beset with complications (Gebrehiwot, 2012; Oxnevad, 2011; Bedford, 2012; Mwangome 2012). Place of residence and distance

of residence to health services, age, marital status, parity, and economic standing are socio-demographic influences on the ability of expectant mothers to use health services in less developed regions (James et al., 2011). Place of residence and distance of residence to health services are cardinal because the lack of readily available means of transport bars some women from visiting health facilities even during childbirth (Akum, 2013). For some pregnant women and girls, the ability to move from home to health facility may depend on male relatives or mother-in-law as these women and girls do not have control of finances and transportation (UNFPA, 2012). The creation of CHPS zones has been important in bringing people in the districts closer to accessing health facilities. But doubts have been raised over the quality and scope especially for obstetric care, as a result of an insufficient blend of the range of required skills on offer by health professionals manning these facilities (Ageyi-Baffour, 2013). Since 2010 CHPS zones have been carved out to align with electoral areas instead of the size of population as it was before 2010, creating 5477 CHPS zones by 2013, even though only 1189 out of those were functional (CheSS, 2015). Scaling up the CHPS policy has not been uniform across all districts of the country. CHPS population coverage nationwide has not been high, particularly in southern Ghana which has a larger population. Districts, where the scheme was piloted, had up to about 90% coverage or over, with coverage for the others hovering between 10 – 40% of populations by 2008 (Awoonor-Williams et al., 2013**).** Care-seeking behavior of pregnant women is delayed in situations where they view certain health problems as spiritual in nature rather than medical, such as eclamptic seizures (Moyer 2013; Ghazi 2012). Roro et al., (2014) found in their study through

participants the belief that women who used health facilities would undergo some minor or major operation such as genital cutting, stitching (episiotomy) or cesarean section, which for them became a reason for not making use of health facilities. Many women would consider home delivery first and only choose to give birth in health institutions only if complications arise (Gebrehiwot, 2012; Øxnevad, 2011; Bedford, 2012; Mwangome 2012). Roro et al., (2014) explained that some communities do not consider home delivery a problem. Some women would only visit health facilities only after a prolonged labor period of about two or three days, while some claimed a lack of understanding about the necessity of delivering in health institutions. These are challenges that stand to discourage women from seeking facility-based maternity care. Institutional based health care workers, therefore, ought to create an environment that supports and accommodates various socio-cultural views, integrating the better traditional practices into a holistic educational scheme (Kyei-Numakor et al., 2016).

Determinants of Skilled and Unskilled Birth Attendance

Ghana, for the past two decades, has had an upward surge of health facility deliveries, increasing from 42% to 73% of births (Ghana Statistical Service (GSS), GHS & ICF International, 2015). Home deliveries account for close to 30% of births (GSS, 2012; Kirkwood, 2013). Many factors have been linked to the likelihood of expectant mothers to seek either of the two main types of deliveries in Africa and other continents such as Asia. In developed countries, the choice between home or facility-based care does not automatically imply unskilled versus skilled birth attendance. In the advanced countries, women who choose to deliver at are assisted by trained health professionals.

This is considered by some as women's right to choose, and referral to a higher level of care is a realistic option in most cases. Distance to health institutions, availability of transport and cost of reviewing are some of the many factors that influence women's choice of using health facility services. For some women, the unavailability of organized transport or ambulance precludes them from visiting health institution for delivery (Akum, 2013). Esena et al. (2013) found in the Ga East Municipality that factors associated with the utilization of skilled delivery services include but not limited to distance, the standard of living, and level of education. Other challenges are the failure or delay to recognize illness, payment for health care services, cultural beliefs, and practices, with preference to traditional birth attendants and other attendants in society. Akum (2013) and Esena et al. (2013) in separate studies found that for any expectant mother, a combination of several of these factors may determine their use of either skilled or unskilled personnel. For many pregnant women in Ghana, traditional birth attendants are some of the optional choices available to them as sources of seeking health care, even in places where women have access to obstetric care (Aborigo et al., 2015). In the Roro et al. (2014) study, participants saw home delivery with unskilled personnel as a tradition worth keeping and would only go to a health facility when they experienced problems at home. For some others, it did not make much difference whether they were delivering at home or in a health facility because their safety and well-being were up to a greater spiritual force. Furthermore, male-dominated culture ensures that women are unable to make independent decisions that affect their reproductive health, and that remains an obstacle to them giving birth under the supervision of skilled attendants.

Place of Delivery

Literature from various sources has enunciated on the importance of maternal health care services like ANC, skilled birth attendance, and the availability of tools for use in treating and managing complex obstetric or maternal conditions that may require surgery or some specialized intervention. Access to quality care during pregnancy and especially at delivery best explains the disparity in maternal mortality rates between the developing and developed regions (Silal et al., 2012). Skilled personnel, who have acquired the specialized training to perform maternal health tasks such as doctors, nurses, midwives, etc., all do operate from facilities equipped with tools needed for such tasks. The evidence provided from across all sources and studies makes it quite clear that in the developing world, perhaps the most important element that brings together the necessary tools and equipment needed to treat maternal health contingencies, and the trained personnel with the knowledge and skills to use the tools, is the place of delivery. WHO, UNICEF, UNFPA, World Bank and UNDP (2014) and UNFPA (2013); and studies by Mahiti et al., (2015) and Der et al., (2013) suggested that the most effective strategy for reducing maternal mortality is one in which women routinely choose to deliver in a health facility, with midwives as the main providers of vital obstetric care. Certainly, Choulagai et al., (2013) made a similar assessment and argued that most skilled delivery attendants in Ghana such as antenatal, delivery and postnatal care can only be available in health facilities.

The substantial volumes of literature which discuss the place of delivery have put forward similar reasons for the choice of place of delivery across various studies in

different locations. Anyait et al., (2012), Hagos et al., (2014) and Moyer et al., (2013) advanced that globally, place of delivery is influenced by factors like place of residence, family preferences, ANC attendance, valid health insurance, level of education of partner, delivery position, etc**.** Gabrysch (2011) postulated other challenges are maternal age, parity, education, and marital status. He further added other considerations like family size, household wealth, socioeconomic status, rural/urban residence, available health facilities, and distance to health facilities, determine the place of delivery and these factors interact in a diverse way in each context to determine the place of delivery. Choudhury (2011) also observed that social acceptability, and efficacy of care, the belief systems, culture built around pregnancy, logistics of getting to health facilities, relative weight of women's social obligations, women's status, belief in the spiritual, determine the place of delivery. Smith et al.'s (2013) study in Ghana posited that socio-economic status, as well as women's education level, are important factors that influence a woman's chances of delivering in a health institution. Women's postpartum care such as family planning, vaccination, and nutrition services can be enhanced by delivering in a health institution **(**Kirkwood et al., 2010). Incidentally, the rate at which women deliver in health institutions remains low in the majority of low to middle-income countries (Agha et al., 2011; Anyait et al., 2012; Amano et al., 2012; Hagos et al., 2014). From approximately 42%, the last two decades have seen a rise in births taking place in health facilities to about 73% (GSS, GHS, ICF International, 2015). Despite this improvement, births at home still stand at 30% (GSS, 2012**;** Kirkwood et al., 2013). Outcomes for maternal health are enhanced when labor takes place in health facilities because women

get access to fundamental obstetric, neonatal and emergency care. In Ghana, despite all efforts to encourage patronage of health institutions as the default place of delivery, there are still many inadequacies at the policy level. The WHO (2014) global maternal health indicator database based on surveys in 2009-10, 2011 and 2013-2014 referred to earlier, for instance, indicated no national policy guidelines for the discharge of mother and baby after a normal delivery at a facility. Choice of place of delivery is usually considered a social process based on societies' conceptualization of childbirth. Throughout the developing world, differences in culture mean diversity in the way birth is conceptualized, based on which there may be the reluctance to make use of health facilities in situations of pregnancy-related complications (Yidana & Mustapha, 2014). Some barriers to health institution delivery include maltreatment by midwives; cost associated with health facility delivery despite waived facility fees; the need for a support person for health facility delivery; difficulties in transportation and precipitous labor.

Socioeconomic Status and Place of Delivery

Dependence on men for economic survival has been a barrier to women's control over their reproductive behavior in developing countries. Women can be dissuaded from seeking to deliver in health facilities because they may require permission from others higher up the social strata before they can do so (Moyer et al., 2013).

Empowering women with more economic participation and control in their households and communities might be the key to their achieving control over their reproductive health. Providing employment opportunities for women, therefore, are far-reaching policies which can increase women's economic autonomy and health status

because it opens them up to new behavior and opportunities through interaction with other people outside the home and community. The Risk of death during childbirth is more pronounced for the poorer women and those who are marginalized (UNFPA, 2012). Social status and economic stature, as well as the cultural norms of an expectant woman, has close relations to the probability of their dying or being disabled during pregnancy and childbirth (UNFPA, 2012). Yidana and Mustapha (2014) indicated that when afforded the options to make choices, many women would like to give birth at health facilities. The option of the kind of care women in rural communities in northern Ghana was found to be out of the women's control. Smith et al., (2013) found that the socio-economic status of a female is an influential factor that affects their likelihood of health facility births when they reviewed a recent study in Ghana.

Many people consider pregnancy-related matters and birth as affairs of women only (Yidana & Mustapha, 2014) and so it does not encourage a larger community conversation on how women's outcomes can be improved. The level of development in a community can be seen to influence maternal health care, as women from a deprived community have poorer health outcomes. Women who may not have the support to pay for the cost of transportation or indeed other service charges like surgical procedures, would rather give birth at home and be cared for by TBAs, even if they are well aware of the advantages of delivering in health facilities (Roro et al., 2014). Economic development the female is positively related to their well-being. This improves female decision-making power, a likelihood of increased female labor force participation, and therefore, positive attitudes toward health service use. Without that, women would still

have to defer to the men and older women in their families for decisions about the place they should give birth. According to Yidana and Mustapha (2014), teenage home deliveries are attributable to the decision of parents of these teenage mothers.

Of all the women who had a live birth in the 5 years preceding the GDHS (2014) study referred to earlier, women in the lowest wealth quintile had a 94% rate with on receiving ANC from a skilled provider out of a total of 868 women. The 840 women in the second quintile received ANC from a skilled provider at a rate of 95.6%. Women in the middle wealth quintile had a 96.2% rate on receiving ANC from a skilled provider out of a total of 830 women, with the fourth wealth quintile at 99.4% of 811 women. The highest wealth percentile showed a rate of 99.7% out of 792 women. The MICS (2011) report also mentioned earlier found that assisted births by skilled personnel were about 97.5 among the richest women, but only about 38.6% for the poorest. 76.4% of 868 women in the lowest wealth quintile made 4+ ANC visits. The rate was up to 95.6% of 840 women in the second quintile, who made over 4 ANC visits. The middle wealth quintile rate was 86.8 of 830, and it was 94.3% of 811 for the fourth wealth quintile. Highest wealth quintile had a 4+ ANC visit rate of 99.7%t of 792 women who had a live birth in the 5 years preceding the survey. For all live births in the 5 years preceding the study, 46.9% of 1,255 births from women in the lowest wealth quintile delivered with assistance from a skilled provider, while 46.0% of the same number of births from women in the lowest wealth quintile gave birth in a health facility. A rate of 60.0% of 1,209 births delivered by a skilled provider belongs to the second wealth quintile, and 59.6% of the same number of births delivered by the same category of women was in a

health facility. Births by women in the middle wealth quintile had a rate of 77.7% of 1113 births recorded for deliveries by a skilled provider, and 76.4% of the same number of births for deliveries in a health facility. The fourth wealth quintile had a rate of 99.4% out of 811 women receiving ANC from a skilled provider; with 94.3% of the same number of women achieving 4+ ANC visits. Within the fourth wealth quintile, an estimated 1,058 live births in the 5 years preceding the survey were observed. It was observed that 94% of these live births were delivered with the assistance of skilled birth personnel, and 93.8% of the same number of births took place within the confines of a health facility. The same wealth quintile had about 457 women to have a live birth in the 2 years preceding the survey. Of this number, 91.2% had a postnatal check-up in the first two days after birth. The highest wealth quintile had a rate of 99.7% out of 792 women receiving ANC from a skilled provider; with 98.1% of the same number of women achieving more than four ANC visits. Within the highest wealth quintile, an estimated 1,060 live births in the 5 years preceding the survey were observed. Over 96.5% of these live births were with the assistance of skilled birth personnel, and 96.2% of the same number of births took place within the confines of a health facility. Again in the highest wealth quintile, 406 women who had a live birth in the 2 years preceding the survey had 90.9% postnatal checkup within the first two days after delivery. Again these statistics are in many ways borne out by the MICS (2011) report which found that among those women who had ANC by skilled personnel, the richest women recorded 100% rate with ANC for the poorest women at 95%.

Educational Background of Women and Place of Delivery

The research focused on the place of delivery to a great extent agree that education can have an empowering effect on women, broadening their horizons, choices, and opportunities and giving them the ability to take responsibility for their maternal health needs. When women are more educated they can identify and choose the kind of service they want through considerable empowerment to make decisions, and a greater level of awareness of maternal health issues (Mwaniki et al., 2012)**.** A progressive drop in home births was detected when moving from primary level to the tertiary level with a corresponding increase in births at health facilities, illustrated by tertiary level educated mothers recording only 25% home deliveries as opposed to 75% facility births (Yidana & Mustapha, 2014). The same study found that providing formal education about maternity even at the basic level possibly boosts delivery in health facilities and at the same time cutting down on home-based births. The uplift of women may show through increased knowledge of the benefits of preventive health care and awareness of health services. With education, women have higher receptivity to new health-related information, socialization to interact with formal services outside the home environment, and familiarity with the modern medical culture. With formal education, women can afford access to financial resources and health insurance, more control over resources within the household and wiser spending. Literate women may develop a more egalitarian relationship and better communication with the husband, more decision-making power, increased self-worth, and self-confidence. Knowledge acquired from education would afford women of child-bearing age better-coping abilities and negotiating skills as well as

reduced power differential towards health care providers and thus better communication and ability to demand adequate servic**es.** According to the GHDS (2014) study report, about 94.1% of 1079 women with no education who had a live birth in the 5 years preceding the survey had ANC from a skilled provider, compared to 95.9% of 812 women with primary school education. 99.2% of 1640 women with middle school education; and 99.9% of 611 women with secondary education or above who similarly had a live birth in the 5 years preceding the survey. The study report also found that about 79.2% out of 1,079 women with no education who had a live birth in the 5 years preceding the research made 4+ ANC visits. About 82.3% out of 812 women who had a live birth in the 5 years preceding the survey period made 4+ antenatal visits among women with primary education. In the 5 years preceding the survey, out of a total of 1,561 live births by women with no education, 52.3% gave birth with the aid of a skilled provider. 68.8% of 1,141 births of women with a primary education delivered with the help of a midwife showing an increase of about 26%. So with increasing level of education, the number of pregnant women assisted by skilled personnel during birth also increases. With respect to deliveries in a health facility, only 51.7% of 1561 women with no education gave birth in a health institution as against 68.2% of 1141 with primary education. The trend is about the same, with the increasing literacy level of women, the greater the tendency of giving birth in a health institution. A postnatal checkup in first 2 days after births for women with no education was 65.2% of 635 women, but with secondary level and above of education it was 89.9% out of 337 women.

Patience et al., (2013) indicated that the ability to acquire information about challenges of maternal health, knowledge about the range of services available for maternal needs and the capacity to effectively use such information gives the better-educated women the opportunity of realizing better maternal health outcomes. Women in neglected communities of developing countries are in many ways most linked with home delivery (Prata, 2009). Practicing safe motherhood and delivering in health facilities under the supervision of skilled personnel render such deaths avoidable (Ghazi, Moudi, & Vedadhir, 2012).

Residence and Place of Delivery

Residence in resource-poor settings in rural areas is strongly associated with poor maternal health indicators (Amoako et al., 2013). Place of residence of a woman, whether rural or urban could affect the place of delivery (Enuameh, 2015). The GDHS (2014) study showed that among 1979 women who had a live birth in the 5 years preceding the survey, the percentage of women with ANC from a skilled provider in urban areas was 98.8%, with rural women at 96.0% out of 2163. About 93% out of 1979 women in urban areas had 4+ ANC visits, while are women living in rural areas were at only 82% out of 2163. In the 5 years preceding the survey, out of a total of 2,635 live births by urban residents, 90.9% were delivered by a skilled provider compared to 58.9% out of 3,060 live births delivered by trained health personnel among rural dwellers. The percentage of deliveries in a health facility out of the 2,635 live births among urban dwellers was around 90.9%. Rural residents recorded 57.7% of 3060 live births in a health facility. Among 1,071 urban resident women who had a live birth in the 2years preceding the

survey, the percentage receiving postnatal checkup was 87.1%. From the 1,279 rural women with live births, only 70.7% had a postnatal checkup. For the MICS (2011) report, post-natal care for urban women was 91.9%, with rural women recording a rate of 75.6%.

Delivery Position and Place of Delivery

Even though health experts do not recommend home delivery, there is still some recognition of some benefits of home delivery especially when the community is supportive during birth, and the ability to take appropriate birthing positions to increase birth outcomes. Traditions in many parts of the developing world encourage women to keep doing less difficult housework until during delivery and are allowed to move around during childbirth, even give birth in squatting or seating positions. Women who took part in Yidana and Mustapha‘s (2014) study complained about being directed to remain in bed as the baby emerges, and having their feet fixed in stirrups as the birth attendant seeks to gain a clear view of the process and have easy access. While such a scenario may help facilitate their work, it may be misinterpreted by the women in labor who may feel uneasy and embarrassed and create potential cause for the refusal to use health facilities when they are in labor. Many have found a delivery in the supine position to have some disadvantages. It is seen to defy gravity and prevents the flow of blood to the baby which delays the second stage of labor.

In many studies, women in the developing world consider delivering in the supine position embarrassing and exposed without much privacy. For such women, their preference for TBAs is because they are allowed to squat or kneel when in labor. Debate

rages on about the role of upright or recumbent birthing positions in causing severe perineal trauma (SPT) and some other less severe perineal injuries (Edqvist et al., 2016). In Western obstetric practice, the definition of upright birth position is one in which, there is a connection between the centers of a woman's third and fifth vertebrae by a vertical rather than a horizontal line (Gupta et al. 2012). By this definition, therefore, birthing positions such as sitting, using the birth-seat, standing, squatting and kneeling can be classified as upright positions. On the other hand, postures such as the lateral and all-fours stance, the lithotomy position and the semi-recumbent are all supine positions. Even though delivery in lateral positions, and positioning on all fours, are credited with higher levels of intact perineum, Gupta et al.'s (2012) meta-analysis did not support this claim. Some particular environments, such as birth centers and the home, are more often associated with upright positions (Dahlen et al., 2013). Birth positions can also be defined through categorization of how body weight is balanced on/off the sacrum (Edqvist et al., 2016). Spontaneous birth is facilitated by positions that permit expansion of pelvic outlet, this takes the weight off the sacrum (Kemp et al., 2013). Edqvist et al., (2016) broke down sacrum positions into flexible and non-flexible. Adaptable positions such as kneeling, standing, all-fours posture, lateral position, squatting and delivery via birth seat all take the weight off the sacrum while non-flexible sacrum positions such as sitting or lying on the back (including supine and semi-recumbent position) put weight on the sacrum.

Antenatal Care Attendance and Place of Delivery

There is a considerable debate that surrounds the effectiveness of ANC in reducing maternal mortality in literature. Pregnancy and childbirth present unpredictable complications. Care before birth is a necessary intervention for achieving healthy outcomes for pregnancy (Zere, 2012). Medical examination during pregnancy can help women with information about the merits of delivery in the presence of a skilled birth attendant, to be guided recognizing symptoms of complications early enough and act accordingly to ward off any potential danger in a promptly (Choulagai et al., 2013).

Ghana has a national policy (statement) which recommends a minimum of 4 antenatal visits for pregnant women (WHO, 2014). In Ghana, 80% of pregnant women attend the required four visits with about 95% of them making at least one care visits (Afulani, 2015). Pregnant women undergo risk assessment during these visits.

Ghana has faced challenges that are similar to those which have plagued her peers in the developing regions, but many more women are making antenatal visits over the past few years even though that does not translate into significant growth in deliveries at health facilities (Akazili et al., 2011). Yidana and Mustapha (2014) in their study, buttressed this point when they enunciate that the lack of an established correlation between women's choice of place of delivery and antenatal visits are worthy of note. Many women with good prognosis of their antenatal visits may feel encouraged to deliver without a skilled attendant. Whitworth et al. (2011) reiterated that for the avoidance of death or injuries, it is necessary to highlight the quality of the care over the course of the period of pregnancy. Focused ANC has been found to offer the opportunity for early

detection and timely treatment of diseases which improves maternal outcomes. For example, diagnosing and treatment of high blood pressure, to prevent eclampsia, has been found to significantly reduce mortality (WHO, 2014). ANC is perceived to have a positive effect on maternal health outcomes. Regular attendance of ANC sessions broadly allows for the detection and treatment of pregnancy-related complications promptly, and also provides dietary directives and counsel which goes to augment the state of health of expectant mothers (WHO, 2013). Similarly, health personnel has detected and managed cases of malaria in pregnancy. The strength of ANC, therefore, lies in its early identification of complications; and also for providing information on danger signs and how to handle them. Knowing the condition or state of their pregnancies would put pregnant women and their families in an advantageous position to quickly seek help from qualified health personnel at the first sightings of symptoms (Kabakyenga et al., 2011). Attracting gonorrhea during pregnancy can lead to pre-birth rupture of membranes which causes premature delivery (Brocklehurst et al., 2012). Tudor et al. (2011) discovered that ANC also makes it possible to screen for sexually transmitted diseases such as HIV infection. HIV infection is known to have taken its toll in much of the developing world. Improvement in maternal health outcomes will suffer some challenges in the absence of a viable health and referral system where women can receive emergency obstetric care when needed. Antenatal attendance, on the other hand, can be a marker of familiarity in interacting with the health system and with the health facility. Counseling and education of pregnant women about their health and that of their children should be part of ANC. Since there is a broad acceptance of the assumption of potential risk to every pregnancy,

it is important that women know about symptoms of maternal complications (Kabakyenga et al., 2011).

The WHO recommends a minimum of four ANC visits for every pregnant woman. Women with high-risk obstetric complications could add a few numbers of visits. Tudor et al. (2011) in a reviewed paper estimated the annual mother-to-child HIV transmissions to about 400,000 accounting for about 90% of all HIV infections in children from developing countries, but the developed world has only 1% of infections among children as a result of their ability to control mother-to-child HIV transmissions. The rate of risk of transmission during pregnancy is 5-10%; during labor and delivery is 10-20%, through breastfeeding is 5-20%. In the absence of interventions against HIV transmissions from mother to child in lower and middle-income countries. It falls between 15% and 40% (Tudor et al., 2011). 63% of expectant mothers in Africa are estimated to complete at least one ANC visit, and 42% go through labor under the supervision of skilled birth attendant (Akazili et al., 2011). Yidana and Mustapha (2014) had deduced that two-time visits to antenatal sessions did not assuage women's fear of complications associated with childbirth. Yidana and Mustapha observed that two-time visits matched a 40% home delivery rate and 60% facility delivery rate while attending antenatal thrice corresponded with a 62.6% home delivery rate with a hospital birth rate at 37.5%. Attending antenatal services three times without showing any warning sign was an indication of ability to deliver safely at home. For those who attended all recommended four antenatal services or more, Yidana and Mustapha recorded home

delivery rates of 42.2% and 57.8% hospital births, more indications of the little correlation between antenatal attendance and choice of place of delivery.

Quality of Care and Place of Delivery

Perceived quality of care is the benefits that the mother and the newborn derive from delivering in a health facility with trained personnel. Akum (2013) found that women in labor were poorly received when they got to health facilities, the attitude of health personnel was poor, and they did not relate to them well on personal levels. Some were also not attended to (Akum, 2013) fostering a negative perception of the quality of care at health facilities. Many studies have highlighted the worrying trend of health personnel displaying negative attitudes towards expectant mothers. They also showed they lack appropriate communication skills, and the standard of care they deliver is unsatisfactory (Tunçalp et al., 2012). Yidana and Mustapha (2014) rated safety as the major determinant of whether expectant mothers would deliver in a health facility or not**.** Lack of medical equipment drove women to seek the services of TBAs, as was the inadequate supply of drugs and the lack of space for women in labor to be admitted, according to findings of Roro et al., (2014) in their study. Long waiting time in clinics or health care facilities before being attended to have been consistent as a disincentive to use such institutions even for delivery (Akum, 2013). The manner of how health workers relate to expectant mothers during labor is cardinal in women deciding on a place of delivery and relations form the basis of nurses' attitude towards women when in labor (Yidana & Mustapha, 2014). They define attitude as a relatively abiding predisposition to respond to a person in a rational. Nurses' negligence through sleeping and only

answering when called to assist at the onset of labor in labor wards in their line of duty were all highlighted in Akum's (2013) study. These are also consistent with findings from Esena et al. (2013) who indicated that inter-personal aspects of health care also play an important part in the utilization of skilled attendance.

Distance and Place of Delivery

Distance is a logistical factor that may prevent women from accessing birth in a health facility (De Allegri et al., 2011; Gabrysch et al., 2011). The study conducted by Roro et al., (2014) indicated the lack of means of transport related to poor roads and unavailability of ambulance services was a contributing reason for home delivery. Well-organized emergency medical facilities form the foundation of properly functioning maternal referral systems. A supportive network of maternity referral systems is required for Ghana's lower level health facilities like district hospitals and CHPS compounds for them to function more effectively and efficiently ***(***Awoonor-Williams et al., 2015). Availability of good road, appropriate transportation, information, and communications technologies are factors which determine the efficiency of maternal referral systems; these factors are deficient in many parts of Ghana. Rural areas have the most inefficient maternal referral systems because of the limited access to emergency obstetric care as a result of scarce resources, long distances to health facilities, and poor transportation and road networks (Gething et al., 2012).

Ghana is still in the nascent stages of developing a fledgling national ambulance service to aid emergency transfer of patients who require immediate medical attention in health facilities. In 2004 the Ministry of Health created the Ghana National Ambulance

Service and tasked it with providing services such as transporting patients to health facilities and providing pre-hospital emergency medical care. At the same time, physicians, nurses and middle-level personnel have been trained through an emergency medical training program to increase the number of maternal health workforce (Osei-Ampofo et al., 2013). While emergency services have penetrated all regions of Ghana, they remain concentrated in the regional capitals and only a few districts, even as public awareness of services provided by the national ambulance service remain low amid perceptions of lacking reliability as a result of their poor response times (Osei-Ampofo et al., 2013). Some remote parts of the upper regions of Ghana, for instance, may not have the capacity to transfer women with referrals to a bigger facility on time because ambulance services are lacking. Women in labor may have to use alternative means of transport such as taxis, motorbikes, donkey carts, and bicycles which inevitably puts the safety of expectant women in danger (Awoonor-Williams et al., 2012). Olukunde (2012) recounted that in light of such shortcomings in its system, the Ministry of Health and the Ghana Health Service launched the Ghana Essential Health Intervention Program (GEHIP). GEHIP is a pilot project rolled out in 2012 to enhance the emergency referral system in the Upper East region through the provision of communication gadgetry and 3-wheeled emergency transport vehicles to operate at the community level (Olukunde, 2014). The pilot has improved emergency response times (Olukunde, 2014) and later on scaled up as the Sustainable Emergency Referral Care (SERC) Initiative (GEHIP, 2013). Indeed as is the case with rural communities in the Upper East Region, the rural district of East-Mamprusi in the Northern region also has seen an improvement in transporting

patients from one health institution to the other. A cornerstone of the improvement in these two cases has been the use of 3-wheeled motorcycles, which has made transportation readily available and cost-effective.

Access to Health Information and Place of Delivery

Access to information through the mass media could improve women's knowledge about the risk associated with home deliveries, and also get to know about services available at the health institutions. It is not easy to disentangle access to information from possession of radio or TV and the higher socio-economic status that makes these more likely. Kabakyenga et al. (2011) found minimal levels of knowledge of at least three vital risk signs during the following periods; pregnancy, childbirth and postpartum at 19% as very low. Roro et al., (2014) found that for many women, only labor complications would get them to go to a health facility to deliver, and therefore concluded that information they received during antenatal visits was not enough on the importance of institutional delivery or regarding birth preparedness. Furthermore, a number of time health workers used for counseling expectant mothers during antenatal sessions is minimal and therefore passes as a missed opportunity for critical education of pregnant women (Samson, 2012).

Assistance during Delivery

Though highly valued, virtues like support, care, and companionship when was mostly missing in the experience of many women who delivered at health centers. Women who give birth at home did so because they were assured of these things when they delivered at home (Akum. 2013).

Summary and Conclusions

Information from the literature review presented pertinent implications for growth and development for Ghana and other countries within sub-Saharan Africa. The contents of all research conducted in various parts of sub-Saharan Africa so far reviewed are indicative of higher risk of death for expectant mothers and a continuous challenge to provide access to health delivery facilities. The major themes of the literature included; global picture of maternal morbidity and mortality, efforts made at reducing maternal mortality in Ghana, skilled birth attendant, birth preparedness, key messages for birth preparedness, traditional birth attendants, the demand and hindrances to maternal health care, determinants of skilled and unskilled birth attendance, place of delivery, socioeconomic status and place of delivery, educational background of women and place of delivery, residence and place of delivery, delivery position and place of delivery, ANC attendance and place of delivery, quality of care and place of delivery, distance, place of delivery and access to health information and place of delivery and assistance during delivery.

The literature discussed so far is applicable to both Ghana and countries within sub-Saharan Africa. All the work reviewed so far show that the main aspect of choosing a place of delivery is dependent on factors such as maternal age, education and marital status, household wealth, socioeconomic status. Other characteristics are community health infrastructure, rural/urban residence, available health facilities, and distance to health institutions. Ghana is similar to a majority of sub-Saharan African countries

regarding the glaring deficit in the availability and provision as indicated above at a globally accepted standard.

The findings of researchers reviewed so far apply to Ghana and her peers in sub-Saharan Africa because access to health care is a challenge for many in these parts of the world, especially for women. Even in situations where health care is accessible, the quality of care provided is low. In many instances, there is a lack of a clear, distinct government policy or state legislation towards issues affecting women's health, let alone pregnancy and childbirth. Usually, valid empirical data through rigorous research is lacking, making it impossible to understand and evaluate the problem on a national level as a starting point to dealing with the issue. The contents of the literature reviewed so far from both Ghana and other countries in the sub-Saharan Africa point to structural and systematic fault lines within all aspects of maternal health care.

On the other hand, the findings of literature reviewed so far do not apply to more developed parts of the world because of a much robust maternal health care infrastructure, readily available access to maternal care, and clearly defined strategy for implementation at the level of policy-making.

Literature review used relevant databases to provide the best opportunities to retrieve relevant information quickly and accurately for this study. Most of these search engines came up with a range of primary features that I would explore in the search for relevant research including search by publication date, search by authors name, search by keywords, search by subject or topic, etc. Some of the relevant databases used in the literature search include Academic Search, Cochrane Library, Google Scholar and a few

more. The search strategy for this study included using keywords such as health facility deliveries, utilizing skilled delivery, health institution delivery barriers, place of delivery choice of delivery place, and synonyms of the key terms. Studies included as part of the literature review are reports or publications produced over/within the last past 5 years. Other sources included peer-reviewed studies, reports commissioned or sponsored by international bodies such as the United Nations, World Bank, and WHO. Additional sources included local, municipal, departments and agencies who have an interest in reproductive health.

Globally, a significant number of women die from childbirth or pregnancy or any of their attendant complications. Delivering in health facilities under the supervision of skilled personnel creates possibilities for obstetric and emergency care. A 2014 UNICEF report estimated that only 48% of deliveries in Ghana were facility-based. Delivering in a health facility that provides high-quality obstetric delivery helps reduce the prevalence of maternal mortality. The presence of skilled attendants during childbirth, therefore, is an important strategy in the effort to lower the prevalence of maternal mortality especially in developing regions which have the highest incidences of maternal deaths. The concept of birth preparedness and complication readiness is an extensive package with the objective of encouraging timely access to skilled maternal services.

Access to quality care during pregnancy and at delivery is the crucial factor in explaining the disparity in maternal mortality between the developing and developed regions. The rich countries do have skilled personnel such as doctors, nurses, midwives, etc., with specialized training to perform maternal health duties. These personnel operates

from facilities well equipped with tools for such tasks. The evidence provided from across all sources and studies makes it quite clear that in the developing world, perhaps the most important element that brings together the necessary tools and equipment needed to treat maternal health contingencies, and the trained personnel with the knowledge and skills to use the tools, is the place of delivery.

The cause of the disparity in skilled deliveries rate in the rural district of Tolon District and Tamale is unclear. The study employed mixed methodology as described in the next chapter to inform the Ghana government on the policy direction on maternal health issues at both rural and urban levels.

Chapter 3: Research Method

Introduction

In this study, I sought to investigate factors that influence expectant mothers' choice of place of delivery when living in rural and urban settings of the northern region of Ghana. I used a mixed-methods paradigm that was predominantly quantitative. I used a combination of qualitative and quantitative data with concurrent triangulation involving an interview with selected health professionals, a detailed survey of expectant and lactating mothers, and a focus group discussion with expectant and lactating mothers randomly selected from women who volunteered to take part. The mixed-methods paradigm had a quantitative segment with both closed-ended and open-ended questionnaires. The quantitative research questions enabled me to identify the relationship between independent and dependent variables with expectant mothers at the study site. I used the focus group discussion to explore significant quantitative results by probing aspects of the factors influencing the choice of place of delivery among expectant mothers in rural (Tolon District) and urban (Tamale) settings in the northern part of Ghana. The mixed method I used was a form of triangulation that enriched or gave a better understanding of the findings. A pilot study was not conducted because the questions were selected from the GDHS questionnaires, which are available free online.

In the first section of this chapter, I indicated the study variables and research design and its connection to the research questions. In the next section, I have stated the sampling strategy and processes and their justification. I also demonstrated the recruiting procedures, including demographic information and debriefing procedures I carried out. I

identified software used for analyses and provided an explanation of data cleaning and screening procedures appropriate to the study. After that, I highlighted the threats to external, internal, and construct validity in the study area. In the penultimate section, I outlined issues of access to participants and the ethical standards put in place in that regard. This chapter concludes with a brief summary.

Research Methodology

Methodology is the strategy or the plan of action or design underlying the decision and use of particular methods, linking the choice and use of methods to the desired outcomes (Crotty1998). The study approach here was a mixed-method design in which I gathered both quantitative and qualitative data. The mixed-method paradigm has a weighted quantitative segment. For the qualitative data, I interviewed selected health workers (community health nurses, general nurses, and midwives) who work with expectant mothers, and I conducted a focus discussion with expectant mothers, lactating mothers aged 15-49 randomly selected from women who volunteered to be part of the focus group. The quantitative data were gathered from a descriptive survey with questionnaire using a proposed sample size of 552, which is 276 each from both rural and urban communities. I used a two-stage sampling technique to select study participants. In the first phase I selected households out of the cluster/block of individuals I had already sampled. In the second phase, I selected individual participants from households that responded to items on the survey questionnaire after consenting to partake in the study.

Setting and Sample

According to the 2010 population and housing census, the Tolon District had a population of 72,990, representing about 2.9% of the northern region's total population. Among that population, 49.8% were men and 50.2% were women. The rural population stood at 88.4%. The population of the district was 71,862, with a total of 8,110 households. On average, there were nine people per household, which was higher than the regional average of 7.8. Accounting for about 46.5%, children constituted the largest portion of household members. Only about 9.5% were spouses, with other relatives making up 13.0%; whereas, family heads constituted11.3%. The extended family system constituted 68.5% of the total number in the district (GSS, 2014). The Tolon District Hospital had 13 clinical and 17 reproductive and child health staff members, made up of midwives, staff nurses, enrolled nurses, and community health nurses.

The Tamale metropolis is one of 26 districts in the northern region of Ghana. The 2010 population and housing census show that Tamale had a population of about 223,252. Among that population 111,109 (49.7%) were men and 112,143 (50.2%) were women. About 80.8% of the population could be classed as urban, with the rural areas constituting 19.1% of the population. Tamale had 48,975 households, and the average size was 7.6 persons (Issahaku et al., 2014). The Tamale Teaching Hospital was chosen because it is the only referral hospital in the northern part of Ghana. It has a 400-bed capacity and serves a population of over 1 million.

I used purposeful sampling to determine the health professionals most likely to have relevant experience about the research topic from both the Tolon District's hospital

and the Tamale Teaching Hospital. I used a random cluster selection of participants for the quantitative aspect: first sampling cluster/blocks of households within the two selected districts (i.e., Tamale and Tolon District) and then selecting individual respondents from households who took part in the questionnaire-based survey. I selected eight participants for each of two focus discussion groups from the two districts based on the inclusion criteria. I used the standard formula for a two-sample comparison of percentages to determine the appropriate sample size.

Research Questions and Hypotheses

The research questions and hypotheses for this study were the following:

RQ1: What informs the choice of place of delivery among pregnant women in the study area?

RQ2: What factors affect the choice of place of delivery among pregnant women in the study area?

H_0: There is no significant difference between the choices of place of delivery of pregnant women in either rural or urban settlements.

H_1: There is a significant difference between the choices of place of delivery of pregnant women in either rural or urban settlements.

Qualitative Interviews, Focus Group Discussion, and Quantitative Survey

I conducted interviews with four selected participants from the Tamale Teaching Hospital and four participants from the Tolon District Hospital, and I also conducted focus group discussions with selected expectant and lactating mothers from both districts; these formed the qualitative part of this study. These interviews included semistructured

questions to the selected participants (one in each category), and their responses formed part of the qualitative part of the study. The selected members from both Tamale and Tolon District were one community health nurse from the antenatal clinic, one midwife from the maternity ward, one staff nurse from the gynecological ward, and one midwife from the labor ward. On a daily basis these health care workers received and managed expectant mothers. The questions sought the opinions of these professionals on the reasons they thought expectant mothers decided to deliver at home or at a health facility. The focus group discussion participants were randomly selected participants from volunteers who met the inclusion criteria. There were eight participants from Tamale and eight participants from Tolon District. Using a focus group discussion guide, I sought their opinions on why they decided to deliver either at home or in a health facility.

The quantitative portion of the study consisted of 552 participants (276 from each district) who met the inclusion criteria. The formula used to calculate the minimum sample size was the standard formula for a two-sample comparison of percentages. Therefore, the sample size estimated was 178 per study area, giving a total sample size of 357, and because I used cluster sampling to select respondents, I used a design effect of 1.5. This led to an increase in the sample size to 535.2. The maximum sample was 615.4 when a provision for 15% of data loss or damaged questionnaire was considered, and the minimum sample size was 535.

Participant Selection

I selected health professionals from a pool of over 35 staff with a minimum of 5 years of working experience, under the reasoning that in 5 years, the health professional

might have been in touch with clients who have provided reasons they chose to deliver at home or at health facilities. They were also likely to have relevant experience about the research topic.

Participants in this study met the following inclusion criteria: (a) aged between 15-49 years, (b) pregnant or has had a child within the last 3 years, (c) resident in the study area for at least 3 years, (d) must be of sound mind, and (e) able to recall past events. The exclusion criteria in this study were a set of characteristics that disqualified individuals from being selected to participate in this study. Exclusion criteria were the following: (a) physically and mentally unfit, (b) unable to provide informed consent, and (c) not able to provide reliable data/information.

Role of the Researcher

My role as the principal investigator was purely a research fellow. I did not attend to these participants because I do not work at either the antenatal clinic or the labor ward. I solely work at the public health department as a public health physician. I had no personal or professional relationship with the participants and hence my biases were minimized. If any relationship had developed in the course of the study that may compromise the data or bias the study, I would have taken action to exclude that data. Participation was voluntary and no incentives were provided for participation. There was no conflict of interest in this study.

Data Collection

I collected data for the study using a semi structured questionnaire which was a modified version of (Ghana Demographic and Health Survey, 2014; Nuolabong, 2015).

The original source of the instruments for the survey was retrieved from a public domain, and no fees or permits were required for using the resources. The survey instruments were reviewed by the Department of Research and Development at the Tamale Teaching Hospital.

A two-stage sampling technique was used to select study participants. In the first phase, I selected households out of the cluster/block of individuals I had already sampled. During the second phase, I selected individual participants from within the households that responded to items on the survey questionnaire.

Selecting the starting household. The first household was chosen from the center of each community/cluster. In each community, I chose a starting location by going to a central location in the community. At the center of the block, I chose a travel direction at random by spinning a pen. I moved in a straight line in the chosen direction, counting all the households/houses until I reached the end of the community. After that, I randomly picked a number between one and the number of houses to commence with the survey for questionnaire administration.

Selection of subsequent households. Every third household from the previously selected one formed the basis of selecting respondents for the interview. I followed this procedure until such time that the required number of participants was obtained.

Selecting individual survey subjects. For every household in a selected cluster, I approached every individual meeting the inclusion criteria and administered the questionnaire. My method of recruiting participants or subjects or respondents for this study was that I selected only one mother at random who met the criteria for an interview

in any particular sampled block. If two women fit that description in one household, I interviewed the mother of the youngest child. I measured participant demographics, such as age, educational background, marital status, and social status, and these formed part of the independent variables. The availability of health facilities, quality of delivery services in the health institutions including staff attitude, and physical accessibility were measured as well. Qualitative data were information from participants (midwives, community health nurses, and general nurses) collected through interviews and a focus group discussion with expectant mothers from the two communities.

Focus group discussion as a method of data collection involves at least four interviewees (Bryman, 2012), and this method empowers research participants and makes them an active part of the analysis and assessment of the process (Robson, 2002). I used open-ended questions and a focus group discussion guide in a format that allowed participants to express their opinions on the subject matter. These interviews encouraged the participants to share and provide different views about why some women decided to deliver at home or at health facilities. Interviews took 15 minutes and the focus group discussions took 45–60 minutes.

Data Management and Analysis

I analyzed interview data and focus group discussion data using the NVivo version 11 through transcribing, finding emerging themes, coding, and making connections to the research questions. My quantitative analysis was based on the following hypotheses:

H_0: There is no significant difference between the choices of place of delivery among pregnant women in either rural or urban settlements.

H_1: There is a significant difference between the choices of place of delivery of pregnant women in either rural or urban settlements.

The quantitative data were analyzed using SPSS version 22 package. I conducted a univariate, bivariate, and multivariate analysis. The bivariate analysis established an association between the variables collected. A cross tabulation and stepwise logistic regression were done to assess the predictors of skilled and some determinants of health facility delivery. The analysis was be based on the fact that response (dependent) variable, place of delivery, had a binary outcome home/health facility. Binary analysis (Pearson chi-square test) was performed to test the statistical significance of the association between the main predictors of skilled delivery using a significance level of <0.05. I determined the differences between data by using a t-test to find out how significant the differences were. I also performed a multiple regression analysis when necessary whenever there was a desire for the predictive value of a correlation between variables (Gravetter & Wallnau, 2013). Responses in the form of frequencies for the questionnaire determined were presented in the form of tables and graphs.

I also assessed the normality of the distribution of variables by physical examination for outliers and the analysis of the skewness and kurtosis for measures of home/facility delivery. I performed multicollinearity to determine home and facility deliveries between independent variables (marital status, age, educational standard, socio-economic status, and availability of health facilities in the study area. A multiple

regression analysis was done to test the hypothesis, and regression analysis to test interactions between the variables and place of delivery (facility/home).

Validity and Reliability

This study was not experimental in nature and so treats to internal validity was not much of a problem. But when the mode of selection of participants is not inclusive enough, then it could lead to threats to statistical validity, due to insufficient inferences and generalization of research findings to the general population. According to Marczyk, DeMoatteo, and Festing (2005), the violation of statistical assumptions, or usage of inadequate sample size could affect the validity. If there was a bias in the estimation of the effect size, it can result in low statistical power, and therefore affecting the study results. A combination of low statistical power and the use of unreliable instruments may give observed results that might be different from the true results, thereby rendering the results statistically invalid. I assessed the questionnaire in this study for internal consistency using the Cronbach's coefficient alpha.

Also, I validated my results by triangulation, by showing how dependable findings were observed by confirming from several independent sources. I used sources from community health nurses, general health nurses, midwives, and expectant pregnant mothers as a form of triangulation, and also compared their different perspectives on a particular question. The validity/reliability of this data collection process was enhanced when I confirmed my results by these independent sources. I strengthened the reliability of this study by selecting a more representative study sample. By using a representative sample, the study results could be generalized to the larger population.

Quantitative processes put a measure on the constructs and gave a numerical relationship between variables. However, qualitative data allowed respondents to furnish researchers with their unique insights into the phenomenon being researched. Furthermore, qualitative processes including focus group discussions and interview of health personnel that I adopted in this study helped me better understand and better interpret quantitative results. Typically quantitative study could establish a positive correlation between two variables, but it could be quite challenging to explain why that is so. Qualitative processes revealed the story behind the statistics and explained the reason for such a correlation.

The qualitative data also served as a reference for cross-checking with data generated from quantitative processes, such that depending on the degree to which the two data sets vary, I was able to determine about the methodological rigor or the quality of data produced by the quantitative processes, and vice versa. In the quantitative data collection process, respondents may have responded in ways that may fit a particular narrative that might be more acceptable in society, demonstrating their biases. This had the potential to generate quantitative values that had data sets that showed that the phenomenon under study was occurring at higher or lower rates than in reality, introducing measurement error. In order to probe deeply and find out how well respondents understood the terminologies used in the quantitative survey questionnaire process, a qualitative survey was included into the study, which served as an accompanying responses. That helped explain the origin and nature of the bias and measurement error that may exist in quantitative data sets.

Ethical Review

This proposed research mainly involved human participants, and so it was imperative that at no point of their participation in this study did they suffer any adverse effects. Bowling (2014) reiterated that the ethical principles governing research are that I should not harm respondents as a result of participation, and they gave their signed, informed consent to participate after reading about the study aims, confidentiality and anonymity and what it involved. Creswell (2007, p. 141) contended that regardless of the approach, researchers face many ethical issues that surface during data collection in the field and the analysis and dissemination of the research report. Diener and Crandall (1978) identified four main areas of ethical consideration. They include: (a) whether there is harm to the participant, (b) whether there is a lack of informed consent, (c) whether there is an invasion of privacy, and (d) whether deception is involved.

Unlike in some other countries, Tinada and Boateng (2009) observed the absence of an overall national ethics council to serve the regulator in ethical research especially for the conduct of research involving human subjects in Ghana. However, individual institutions have their ethics committee that regulates ethical issues that come before them. I sought ethical clearance from the Ethics Committee of Tamale teaching hospital, and also be from the Tamale Metropolitan Health Directorate and the Tolon District Health Directorate, and final approval from the Walden University Institutional Review Board before I started data collection. My IRB approval # is 10-02-18-0402836.

Since the study involved human participants, it essential I observed ethical principles as indicated by Burkhart and Pawlik, (2017). The basic principles of ethics that

I observed during data collection were the respect for autonomy, the respect for privacy and confidentiality, I had to consider a risk of harm, and the need to avoid deceits or exploitation. The use of voluntary informed consent in this study indicated the participants' agreement and their choice to participate or not, after full disclosure of the purpose and implication of the study, and that was at their own discretion (Depoy & Gitlin, 2011). This consent as indicated by Burkhart and Pawlik included disclosure, comprehension, voluntary, and competency.

Respect for Autonomy

As stated above, the investigator sought consent from the participants (professionals and expectant mothers) and ensure that they understood the intent of the study were willing to participate. The process of consent was both written for the expectant mothers and verbal for health professionals. Participants were at liberty to withdraw from the study at any stage in the study if they so wished and they will not be faulted.

Respect for Privacy and Confidentiality

Privacy has to do with access to information about participants and confidentiality relates to the way information about participants in the study are managed (Geana et al., 2017). Lancaster (2017) stated that attaining direct entry to one's information and personal issues without any knowledge and approval from them is a breach of the individual's privacy. Lancaster reiterated that the breach of confidentiality of the individuals occur when investigators obtain their data or information without their prior knowledge or consent. I took into consideration the privacy and confidentiality of my

participants in high esteem and made sure they were protected. Participation was ensured confidentiality and their decision to take was voluntary, and full disclosure of any potential risk as a result of participation in the study, and a statement that provided assurances for confidentiality and a declaration showing participants right of refusal and voluntary consent.

The Need to Consider Risk of Harm

A risk as described by Dooley, Slavich, Moreno, and Bower (2017) is any prospective harm involving the physiological and psychological structures such as stress, injury, and loss of self-esteem. There was full disclosure of any potential risk as a result of participation in the study and also the assurance of protection against any physical discomfort or harm.

The Need to Avoid Deceit and Exploitation

I explained the purpose of the study to the respondents in order to rule out any form of deceits and exploitation. According to Granek, Nakash, Cohen, Ben-David, and Ariad, (2016) members could make incorrect assumptions when the explanation of the purpose and the process are not complete. As indicated earlier on, I sought approval for this dissertation from the Walden University Review Board before I started data collection. I also have sought permission from the Tamale Teaching Hospital and Regional Director of Health Services, Tamale, in the Northern Region of Ghana. Rudestan and Newton, (2015, p. 313) stressed that before the start of any research work permission has to be obtained from the IRB of the institution where the candidate is a student and also the sites where the research would take place. As required by the IRB of

the Walden University, students are supposed to present their dissertation proposals to the IRB for approval before data collection. This is the standard requirements of the University's ethical board as well as the U.S. Federal regulations (Walden University, n.d.). The Regional Health Directorate of the Northern Region of Ghana Required that permission is sort before any information is taken from research participants to make sure their privacy is protected.

The investigator ensured that data were secured in a locked cabinet for at least a period of 7 years as demanded by the American psychological association. A test for all assumptions was conducted with a high rate of accuracy and honesty during the data collection, analysis and finally interpretation of same.

Summary

The investigator used interview and a survey to answer the research questions using eight participants for the interviews and 552 expectant mothers for the survey. The minimum sample size calculated for the study was 535. Walden IRB gave permission to commence with the study, followed with data collection. Participants were only permitted to take part in the study after they had given informed consent and permission. The investigator will keep the consent forms locked to assure confidentiality. The findings for both the qualitative and quantitative studies are presented in Chapter 4 as the results of the study.

Chapter 4: Results

Introduction

In this study, I sought to identify and compare the various factors that influence the choice of place of delivery among expectant mothers in rural (Tolon District) and urban (Tamale) settings of Ghana. I examined a combination of qualitative and quantitative data through concurrent triangulation involving semi structured interviews with selected expectant mothers and professional participants and a detailed survey. I chose a mixed method to explore potential factors that may be responsible for the choice of place of birth among expectant mothers in both the rural and urban areas. My choice was influenced by the belief that there are several constructions to social phenomena, and understanding requires a mixed approach to harness the strengths of both qualitative and quantitative data while reducing to appreciable level the weakness associated with the sole use of quantification or qualitative analysis (Teye, 2012). The research questions that guided the study with the hypotheses were the following:

RQ1: What informs the choice of place of delivery among pregnant women in the rural or urban area?

RQ2: What factors affect the choice of place of delivery among pregnant women in the rural and urban study area?

H_0: There is no significant difference between the choices of the place of delivery of pregnant women in either rural or urban settlements.

H_1: There is a significant difference between the choices of place of delivery of pregnant women in either rural or urban settlements.

In this chapter, I summarized the data collection procedure, described the preparation of the data for analysis, and provided the results of the analyses.

Data Collection and Management

Data collection began on Friday, October 5, 2018, at exactly 10:28 a.m. GMT and ended on November 26, 2018, at 2:15 p.m. GMT. On the first day of the study, I distributed 50 questionnaires in Tamale after participants consented to participate in the study. The data collection for both Tamale and Tolon District continued through the whole study until the last participant completed the survey on November 12, 2018. I conducted the focus group discussion for Tolon District on November 17, 2018, and the focus group discussion for Tamale on November 18, 2018. I collected qualitative data through face-to-face interviews from November 23, 2018, through November 26, 2018, beginning with health personnel from Tamale, and ending with personnel from Tolon District. After data collection, I entered the responses of the questionnaires into SPSS version 21. I screened the data, scored the instruments, and conducted statistical analysis.

As described in Chapter 3, the primary outcome variable used to estimate the sample size was the population proportion of supervised skilled deliveries in urban and rural areas. I calculated the sample size for this comparative cross-sectional study using the standard formula for a two-sample comparison of percentages. Using the standard formula for a two-sample comparison of percentages, I obtained a minimum sample size of 535. A total of 552 participants (276 participants for each location) were enrolled in the study.

Coding Analysis

I recorded the interviews in English on a sound recorder. I listened to these recordings a minimum of eight times and I transcribed them in a Word document. I transferred the interview materials into the NVivo software version 11. I explored all eight participants, grouped them into groups such as health personnel from the antenatal, gynecological department, maternity ward, and labor ward. For each interview question, I followed the responses and related them to the research question. I ended by coding each transcript using the inductive coding approach, which allowed me to tease out important themes from the raw data.

Themes

After reading the transcripts of the interview document several times, I was able to generate themes. Subsequently, I did an in-depth analysis of the interviews with the research question and refined the themes. I had to change some of the coding categories based on the data. Each time I identified a new code or deleted a code, I had to trace back to retrieve the transcript to make the appropriate correction as recounted by Campbell, Quincy, Osserman, and Pedersen (2013). I conceptualize by showing some of the words on word clouds. I performed a text search for some words to see how often they were encountered from the participants (Cidell, 2010). Using NVivo function, the corresponding answers were coded under a key theme. For example, all correspondents responded to the question “Why do you prefer facility delivery?” The question became the main theme. I ran a word cloud at a frequency to depict the responses to the main theme. I created a correlation matrix and contrast for some of the items. Finally, I noted

all the information realized from these analyses and used it in the discussion portion of the study.

Research Findings

In the following sections, I presented the results of the study. The first section includes the qualitative data from the NVivo, and the second includes the quantitative data from the SPSS. I presented the qualitative data that sought to answer the first research question—factors influencing the choice of delivery of pregnant women in the study area—based on key informants' (lactating mothers and health staff) feedback. Specific themes covered in the qualitative presentation include preferred place of seeking antenatal health care by pregnant women, preferred place of delivery, and the reasons accounting for preference of TBA by some women. On the part of health staff, areas included the dominant mode of delivery by pregnant women as well as the perceived attendance of ANC by pregnant women.

The second phase of the results presented addressed the quantitative research question: factors affecting the place of delivery among pregnant women in the study area. It results focused on issues such as the availability of skilled attendants, accessibility to a health facility, and factors influencing the choice of place of delivery.

Qualitative Data

The subsection of the results presentation focuses on the qualitative facet of the study. Table 1 provides the demographics for the sampled health care professionals.

Table 1

Participant Demographics

District	Gender	Profession	Years at Post
Tamale	Female	Midwife (M1)	18 years
Tamale	Female	Midwife (M2)	18 years
Tamale	Female	Midwife (M3)	14 years
Tamale	Female	Midwife (M4)	17 years
Tolon District	Male	Physician assistant (N1)	25 years
Tolon District	Female	Midwife (M5)	7 years
Tolon District	Female	Midwife (M6)	7 years
Tolon District	Male	Clinical Nurse (N2)	5 years

The pattern of results indicated that approximately 80% of the sampled health professionals were women. However, all key participants in Tamale were women, compared to 50% women observed for participants from Tolon District. The results further showed that a clinical nurse from Tolon District had the least years of work experience in that post.

Qualitative Research Question

The main qualitative question sought to understand what informs the choice of place of delivery among pregnant women in the study area. Data collected from the key research informants in the form of personal interviews provided the basis for answering the research question. Specifically, the eight key informants were asked for their views on thematic areas such as the kind of services provided by their facility, where they perceive most pregnant women go to deliver and the reasons accounting for their choice, as well as how they assess the attendance of ANC.

Themes for the Qualitative Study

Service Provided by Health Facility

Respondents were initially asked of the exact services they provide to pregnant women. The feedback from participants revealed that health personnel in both locations (Tolon District and Tamale) provide similar services with slight variations in approach. Specifically, it was observed that provision of services, such as scan, palpation, preparation of cases for emergency surgery and family planning, cut across the duties of health professionals in both Tamale and Tolon District. However, whereas participants from Tolon District were found to undertake outreach programs to areas with limited access to health facilities on a regular basis, whereas outreach in Tamale occurred less frequently. Additionally, the nature of service provided a difference in terms of referral cases as most emergency cases were referred from Tolon District to the Tamale Teaching Hospital. The various services provided at the health facility in Tamale and Tolon District are shown in figure 2.

Figure 2. Word tree indicating the services provided by the health facilities.

Preferred Place of Delivery

Preferred place of delivery was a theme extensively discussed by participants in the qualitative discussions. Feedback indicated that options available to pregnant mothers were delivery at a health facility or at home assisted by a traditional birth attendant. The dynamics are shown in the wordmap below. Participants vehemently indicated that most pregnant women prefer to deliver at health facilities instead of delivering at home. However, I also observed that, despite the preference for delivering at facilities, a section of pregnant women—especially in Tolon District—preferred home delivery to health facilities. Figure 3 below indicates the participants' discussion of the preferred place of delivery.

Figure 3. Participants' discussions on the preferred place of delivery.

Reasons for Home Delivery

In order to unpack the variations among women for place of delivery, participants were asked their views on the factors accounting for preference for home delivery. The study identified a plethora of factors accounting for pregnant women preferring home delivery, as shown in Figure 3.

Specifically, I observed the traditional notion that a woman's ability to deliver at home is a sign of strength and faithfulness to her husband; belief in the maternal prowess of traditional birth attendants and behavior of hospital staff served as a disincentive to pregnant women to visit health facilities when in labor. Also, economic and environmental factors, such as poverty and poor road networks connecting communities to health centers, played a role in deciding the choice of place of delivery by pregnant women, as seen in Figure 4 below.

Figure 4. Factors accounting for home delivery by pregnant women.

Notwithstanding the willingness of a pregnant woman to visit the hospital when in labor, I again observed instances where the onset of childbirth makes it impossible for them to deliver at a hospital. For instance, when asked of such peculiar cases, a participant in a focus group discussion at Tolon District remarked, “I prefer home delivery because mostly labor processes start at midnight, and the delivery follows making it impossible to go to the hospital.”

Another participant from Tolon District indicated that:

It is true that “I usually give birth in the house” because I do not even realize I am in labor, because the *delivery process is very prompt*. I do not experience any difficulty, and it mostly *happens at midnight* when you are fast asleep and no ready transport.

Whereas responses above indicate that home delivery may be prompt and unplanned, a revelation by a participant from Tamale showed a different dimension to the argument:

> Some of us are made to deliver at home because the society tags women who go to the hospital to deliver as weak. So, when I was in labor I was made to labor from Wednesday to Friday and when they realized it was a difficult labor, they then took me to the hospital. Most of us decide to deliver at home because we want to be seen to be strong. During labor the family advises you to try your possible best to deliver at home since delivery is a physiological process and with tenacity, you can easily overcome'.

Even though home delivery was recorded in both study communities, it was found that respondents from Tolon District prefer childbirth at home to health facility delivery compared to respondents from Tamale.

Factors Accounting for Hospital Delivery

I also observed that a significant majority (81.0%) of pregnant women indicated a willingness to deliver at health facilities instead of at home. The results from the interview sessions, as shown in Figure 5 and Figure 6, revealed that participants amply discussed the factors that account for delivering at hospitals. Figure 6 details the specific factors accounting for pregnant women preferring health facility delivery to home delivery.

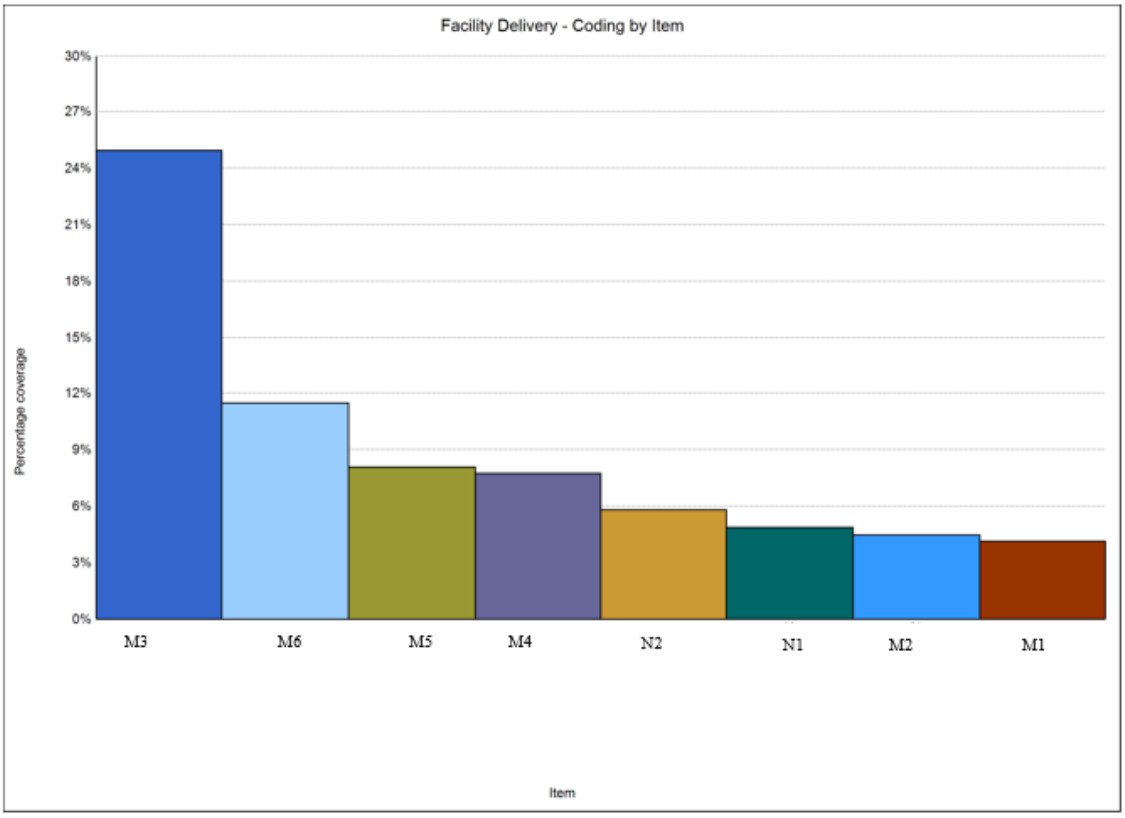


Figure 5. Participants' discussion on facility delivery.

Figure 6. Reasons accounting for health facility delivery.

It is evident that factors such as education of pregnant women by health professionals (enlightenment), the dangers associated with delivering at home, increase in approval rate of husbands to allow their wives to go labor at health facilities, success stories of past deliveries at health facilities and the extent of inhumane treatment given at home during childbirth amply accounts for the increase in pregnant women's preference for facility delivery.

From focus group discussions held in Tolon District and Tamale discussants enumerated several factors influencing their decision to seek maternal health care especially during labor at health facilities. For instance, a 26-year-old mother of two children in her response to what influence her decision to attend ANC and to deliver at the health facility remarked that:

I go for ANC at the hospitals because of "my health and that of my unborn baby". If I do not go to the hospital for these services, I would not be able to know the *health status* of both myself and baby. Even if the baby is not lying well in the womb, they can request for a scan to determine the reason. If you choose to be in the house, how will they know all these?

The dynamics suggest that whereas pregnant women generally prefer to deliver at health facilities', the comparative results also revealed that women in Tamale averagely preferred to deliver at health facilities than women from the Tolon District. Even within the Tolon District, it was observed that women that patronized health facilities for ANC and during childbirth were mostly not from Tolon District but rather surrounding

communities as a participant in an FGD from Tolon District when asked where most pregnant women usually go to give birth observed that:

There is an “increase in facility deliveries” as compared to many years ago when home deliveries were very high. The facility delivery is mostly *patronized by the nearby communities* and not from Tolon District itself. That is Kumbungu-Sub district communities who are not part of our ANC attendants but largely deliver at this facility.

Quantitative Data

Descriptive Statistics for the Questionnaire

Table 2 and 3 below indicates the demographic characteristics of the study participants.

Table 2

Socio-demographic Characteristics of the Study Respondents

Characteristics	Frequency (n = 552)	%
Age group (years)		
15–19	22	4.0
20–24	95	17.2
25–29	117	21.2
30–34	141	25.5
35–39	61	11.1
40–44	68	12.3
45–49	48	8.7
Respondent’s educational level		
No formal education	262	47.5
Primary	63	11.4
JHS/middle school	94	17.0

Characteristics	Frequency (n = 552)	%
SHS/vocational/technical	88	15.9
Tertiary	45	8.2
Marital status		
Single	7	1.3
Married	523	94.7
Divorced/separated	14	2.5
Widowed	8	1.4
Ethnic background		
Gonja	51	9.2
Dagomba	484	87.7
Others	17	3.1
Household head		
Self	12	2.2
Husband	257	46.6
Father	106	19.2
In-Law	172	31.2
Participant's religion		
Christianity	44	8.0
Islam	496	89.9
Traditional	12	2.2
Husband's educational level		
No formal education	283	51.3
Primary	46	8.3
JHS/middle school	74	13.4
SHS/vocational/technical	58	10.5
Tertiary	86	15.6

It is evident from Table 2, that about a quarter (25.5%) of respondents were between the ages of 30 – 34 years with teenage respondents aged between 15 – 19 years accounting for just 4.0 of the study respondents. However, the oldest age cohort of 45 – 49 years also accounted for 498 respondents representing 8.7% of the study population. Concerning the educational background of respondents, the study found that only 8.2% of the study respondents have completed tertiary education, primary (11.4%) as compared to 47.5% of the study respondents without any formal education.

Regarding marital status, 523 respondents representing 94.7% of the entire study population were married with only 1.3% being single. Also, a further 1.4% of the respondents were found to be widowed as shown in the table. The dominance of married respondents is not surprising considering the extent to which tradition abhors childbirth outside marriage within the study area. The ethnic background also revealed that Dagombas (87.7%) constituted the major ethnic group with other ethnic groupings such as Dagaarti, Mamprusi, and Akans forming just 3.1%. In terms of household headship, the husband of respondents was found to head approximately 46.6%, In-law (31.2%) and Self-indicating headship by respondents in rare cases of 2.2%. The dominance of husband headship is a testament to the patriarchal nature of Ghanaian society.

It is worth mentioning that no respondent was found to practice faith outside the three main religions of Islam, Christianity, and Traditional religion. Specifically, most respondents (89.9%) were observed in practicing Muslims compared to Christianity (8.0%). The last demographic characteristic examined and presented focused on the educational level of respondents as it is believed to play a crucial role in determining the

factors that account for the choice of place of delivery among pregnant women. It was observed that the majority (51.3%) husbands of the respondents do not have any formal education a figure slightly higher than the recorded percentage (47.5%) for respondents themselves. However, approximately 15.6% of husbands of respondents were found to have obtained a tertiary degree.

A cross-tabulation and Chi-Square test were also performed to examine the relationship between marital status and household headship. Table 3 provides the results of the test.

Table 3

Marital Status and Household Headship

Household headship	Marital status of respondents			
	Single	Married	Divorced/separated	Widowed
Self	8.3%	66.7%	8.3%	16.7%
Husband	1.2%	95.0%	2.3%	1.6%
Father	2.8%	90.6%	5.7%	0.9%
In-law	0.0	98.9%	0.6%	0.6%

From Table 3 above, as high as 95.0% and 98.9% of married households were found to be headed by the respondent's husbands and In-Laws respectively. A further 90.6% of married respondents opined that their households were headed by their fathers. However, less than one tenth (8.3%) of single respondents were found to be the head of their households.

Availability of Skilled Attendants at Health Facilities

As part of efforts to understand the factors affecting the choice of place of delivery among pregnant women, attention was paid to the availability of skilled attendants at health facilities within the study communities. Respondents were asked if there is an accredited health facility in their jurisdiction. Table 4 gives a representation of the respondent's feedback concerning the availability of a health facility.

Table 4

Availability of Health Facilities in Study Community

	Availability of health facility		
	Yes (%)	No (%)	Total (%)
Tolon District	90.2	9.8	100.0
Tamale	99.3	0.7	100.0
All participants	94.7	5.3	100.0

The quantitative data indicated that as high as 94.7% of study respondents could identify a health facility within their locality. However, the study also revealed that more respondents (99.3%) from Tamale answered in the affirmative of yes response. The variations between the two districts in terms of the availability of health facility is not surprising because most developmental projects in Ghana and to a larger extent the developing world has been urban-based.

A similar pattern of results was found in terms of the availability of health professional especially midwives at health facilities. Only 2% of the study population dissented the availability of health professionals at available health facilities. However, as shown in Table 5 below, whereas all respondents (100.0%) from Tamale agreed that health facilities in their communities have the required midwives, about 4.0% of

respondents from the Tolon District bemoaned the lack of midwives to provide the required services.

Table 5

Availability of Midwives at Health Facilities

	Availability of midwives at health facilities in %		Total (%)
	Yes	No	
Tolon District	96.0	4.0	100.0
Tamale	100.0	0.0	100.0
Total	98.0	2.0	100.0

Also, a test of correlation between the availability of midwives and the study districts was 0.01 an indication there is a relationship between the locations of respondents. Also, a coefficient of determination (value obtained x 100%) produced a value of 1 meaning only 1 percent of availability of midwives could be explained by location with 99% of midwife availability accounted for by other variables such as government policies and district's ability to sponsor and retain midwives.

The quantitative data also examined the availability of health equipment for delivery at health facilities within the two districts. Table 6 below provides results on the availability of health equipment for delivery.

Table 6

Availability of Health Equipment for Delivery

	Availability of health equipment for delivery		
	Yes (%)	No (%)	Total (%)
Tolon District	90.6	9.4	100.0
Tamale	99.6	0.4	100.0
All participants	95.1	4.9	100.0

It is seen that whereas 95.1% of health facilities had equipment for delivery, about 4.9% of respondents were oblivious whether health facilities within their localities had equipment for safe delivery.

Accessibility to Health Facility

The study also examined the extent to which respondents can access health facilities based on indicators such as road conditions connecting respondents to health facilities, the average distance covered (in miles) by respondents and the means of transport to health facilities. Figure 7 below gives a pictorial representation of the means of transport in accessing health care with the study localities.

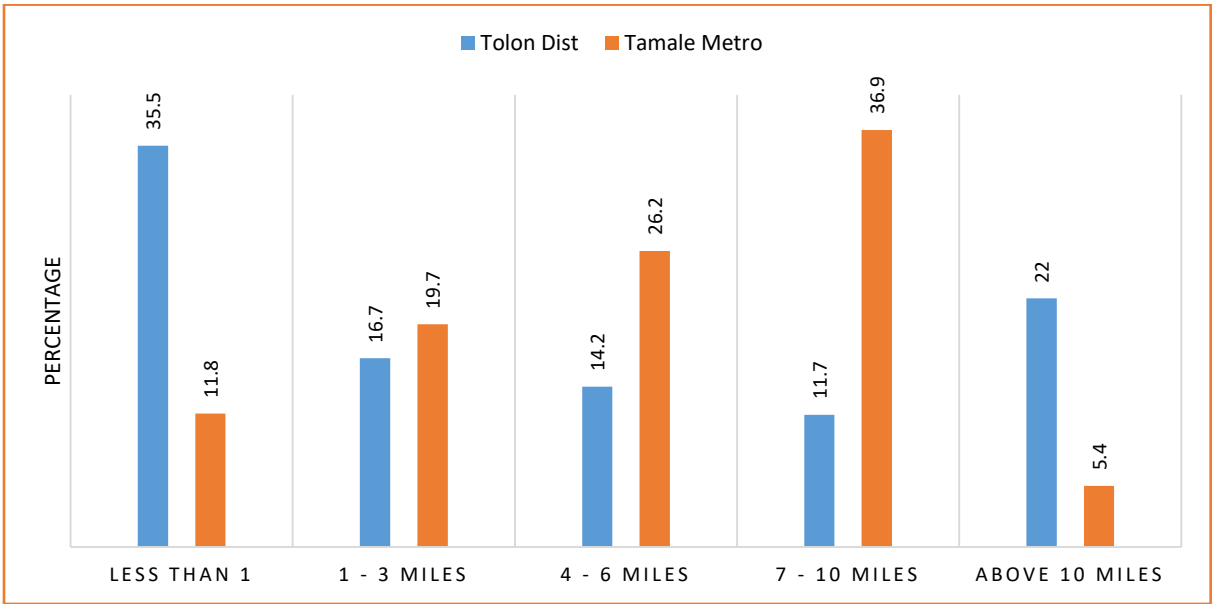
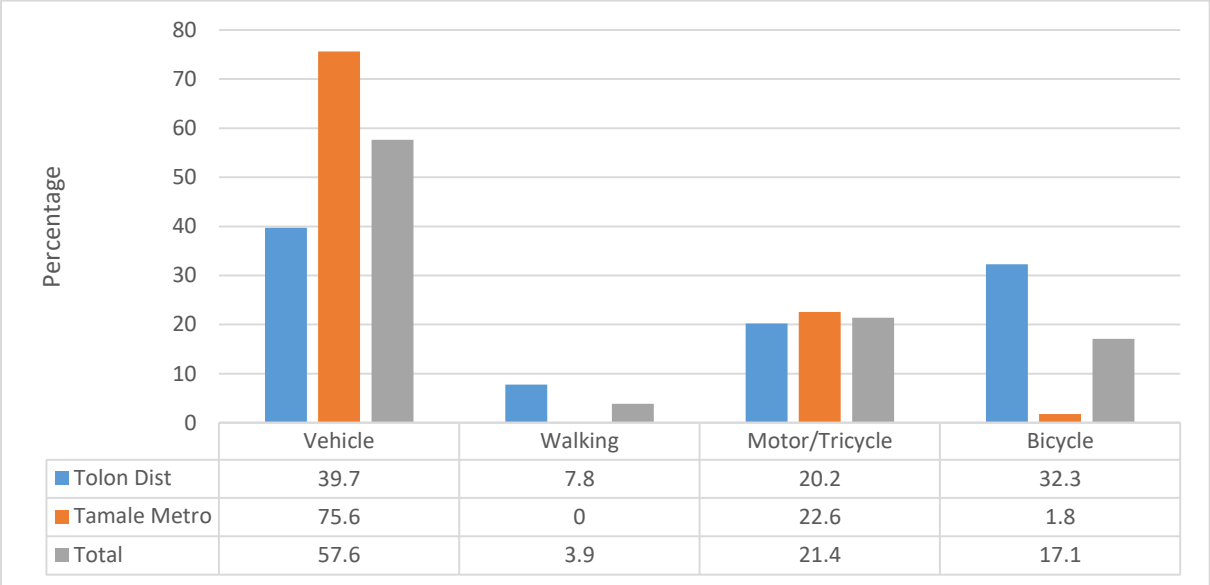


Figure 7. Distance traveled (in miles) to the nearest health facility.

Generally, respondents in Tamale had a favorable travel distance in accessing health care than those in Tolon District. Specifically, whereas 22% of respondents in Tolon travel distances above 10 miles, only 5.4% of health seeking respondents in Tamale travel above 10 miles. However, about 35.5 of respondents sampled within Tolon District had a travel distance of less than 1 mile compared to 11.8% in Tamale.

Concerning means of transport, responses were categorized into the vehicle, walking, tricycle/motor and bicycle as shown in figure 8 below.



	Vehicle	Walking	Motor/Tricycle	Bicycle
Tolon Dist	39.7	7.8	20.2	32.3
Tamale Metro	75.6	0	22.6	1.8
Total	57.6	3.9	21.4	17.1

Figure 8. Means of transport for accessing health care.

Vehicle (57.6%) constituted the dominant mode of transportation for accessing health care delivery for pregnant women followed by motor/tricycle (21.4%). The locational variation also revealed that about 75.6% of respondents in Tamale employed vehicle as a mode of transportation, with a further 22.6% relying on motor/tricycle. No respondent in Tamale indicated walking as a means of transportation compared to 7.8% of respondents in Tolon District that indicated walking as the means of transporting to access health. The percentage (7.8%) of pregnant women walking to health facilities in Tolon District is not surprising because 35.5% of respondents in Tolon District were recorded to travel less than a 1 mile in accessing health care delivery.

Factors Influencing the Choice of Place of Delivery

Respondents were asked of the number of children that they have given birth to and Figure 9 below shows the result from the respondents.

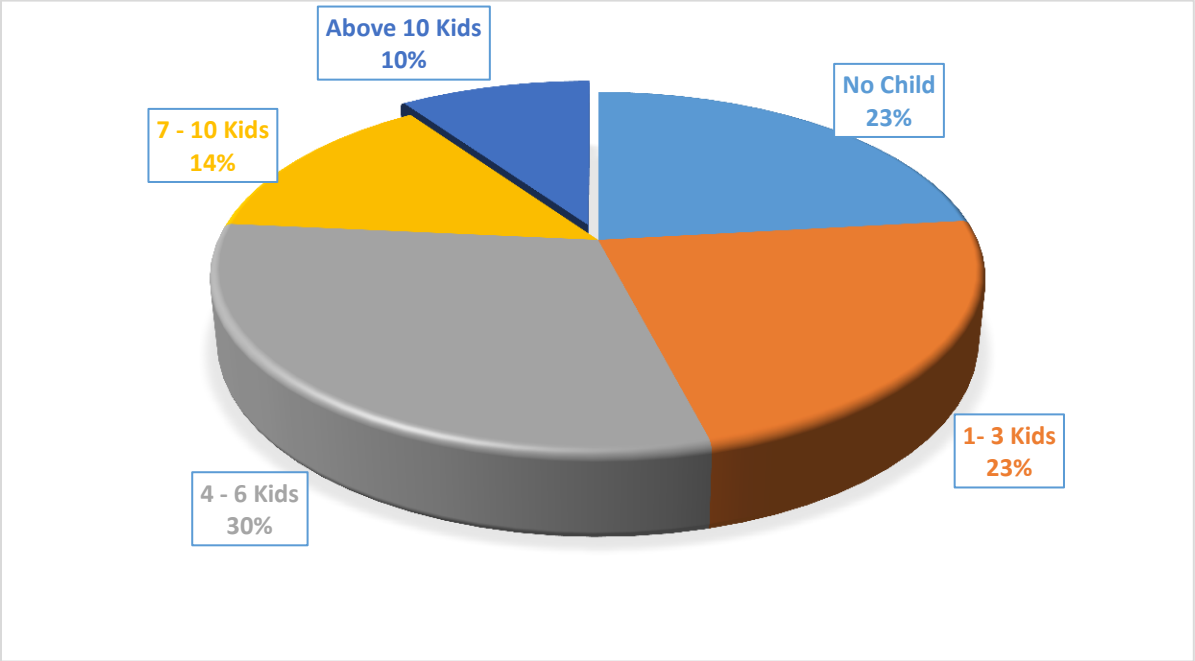


Figure 9. Number of children per respondent.

It is interesting to know that about (30%) respondents had given birth to 4–6 kids; a number more than both replacement level and Ghana's fertility rate. Also, the one tenth of respondents had given birth to more than 10 children.

Table 7 below displays the number of children per respondent and the percentage born at health facilities. Respondents with 1–3 children, 33.6% revealed that none of their children were born at a health facility with a further 66.4% indicating that only one out of their children were born at a health facility. In addition, 24.5% of parents with 10 or more children revealed that at least 3 of them were born at a health facility. Table 7 below shows the number of children born at health facilities.

Table 7

Number of Children and the Number of Children Born at a Health Facility

	Number of children born at health facility				
	Home delivery (%)	1 Child (%)	2 Children (%)	3 Children (%)	4 Children (%)
1 – 3 Kids	33.6	66.4	0.0	0.0	0.0
4 – 6 Kids	25.7	15.8	38.0	17.5	2.9
7 – 10 kids	39.7	15.4	11.5	21.8	11.5
Above 10 Kids	20.8	13.2	22.6	24.5	18.9

The study also presented comparative results on the number of children born at a health facility between the two communities as depicted in Table 8 below.

Table 8

Number of Children Born at Health Facilities in Tolon District and Tamale

	Children born at a health facility in percentages (%)				
	Home delivery	1 – 3 kids	4 – 6 kids	7 – 10 kids	Above 10 kids
Tolon District	69.5	21.5	5.7	2.2	1.1
Tamale	22.7	25.2	24.8	19.1	8.2

It can be seen from Table 8 above that, Tamale dominated the percentage of children born at health facilities. For instance, out of the total 4.5% of parents with 10 or more kids born at health facilities, the study found that most of them were from Tamale. Also, among parents with 1 – 3 childbirth at the hospital (23.5%), most of them (25.2%) were found to be residents within Tamale compared to 21.5% found in Tolon District.

Table 9 below shows the attendance of ANC by pregnant women during their previous pregnancy.

Table 9

Antenatal Attendance by Pregnant Women

	Antenatal attendance in previous pregnancy		
	Yes (%)	No (%)	Total (%)
Tolon District	72.8	27.2	100.0
Tamale	96.4	3.6	100.0
All participants	84.5	15.5	100.0

The majority (84.5%) of the total participants have visited the antenatal clinic during their previous pregnancy. Tolon District had 27.2% of participants not attending antenatal clinic during their previous pregnancy as compared to a low number (3.6%) from the Tamale.

Participants may have some experience during their visit at the antenatal clinic and previous delivery at the delivery room. Some of these experiences as shown in Table 9 may vary at the Tolon District and Tamale which may be a contributing factor for participants choosing home delivery or health facility delivery. The experiences by the pregnant women during ANC at the various study location are shown in table 10 below.

Table 10

Experience by Pregnant Women at Antenatal Clinics

	Attitudes of the hospital staff			
	Satisfactory (%)	Unsatisfactory(%)	Bad (%)	Total (%)
Tolon District	77.3	17.5	5.2	100.0
Tamale	93.0	7.0	0.0	100.0
Total	83.7	13.2	3.1	100.0

	The ease with which you discuss the delivery position with midwives			
	Very well (%)	Not well (%)	Poorly (%)	Total (%)
Tolon District	74.1	17.8	8.1	100.0
Tamale	96.8	1.1	2.2	100.0
Total	83.6	10.8	5.6	100.0

	Privacy in the delivery room			
	Good privacy (%)	No privacy (%)	Averagely(%)	Total (%)
Tolon District	57.2	14.9	27.9	100.0
Tamale	95.8	1.6	2.6	100.0
Total	73.1	9.4	17.5	100.0

Attitudes of health professionals, as shown above, was said to be satisfactory by 83.7% of the entire study participants. However, 77.3% from Tolon District reported a satisfactory attitude by health professionals compared to 93.0% from Tamale. None of the participants from Tamale reported a bad attitude compared to 5.2% from Tolon District. The majority (96.8%) of participants from Tamale described their ease to discuss

their delivery position with health professionals as very well compared to 71.4% from Tolon District.

Good privacy in the delivery room was reported by 73.1% of the total participants. However, the majority (95.8%) from Tamale had good privacy compared to participants (57.2%) from Tolon District. A total of 14.9% of participants from Tolon District indicated no privacy in the delivery room compared to 1.6% from Tamale.

The study also looked at the availability of health equipment for delivery at the health facility as shown in Table 11 below.

Table 11

Health Equipment for Delivery

	Availability of health equipment for delivery		
	Yes (%)	No (%)	Total (%)
Tolon District	90.6	9.4	100.0
Tamale	99.6	0.4	100.0
All participants	95.1	4.9	100.0

Table 11 above indicates that 95.1% of the participants responded in the affirmative that there is health equipment available for delivery at the health facilities. Tamale had 99.6% indicating the availability of health equipment for delivery with 9.4% from Tolon District who indicated no availability of health equipment for delivery at the health facility.

Regarding preference for their next delivery, about 59.6 percent of respondents preferred to deliver at a health facility. However, the locational dynamics revealed

significant differences among the study communities and their choice of delivery; health facility or home delivery. Figure 10 below shows the preferred place of delivery among respondents.

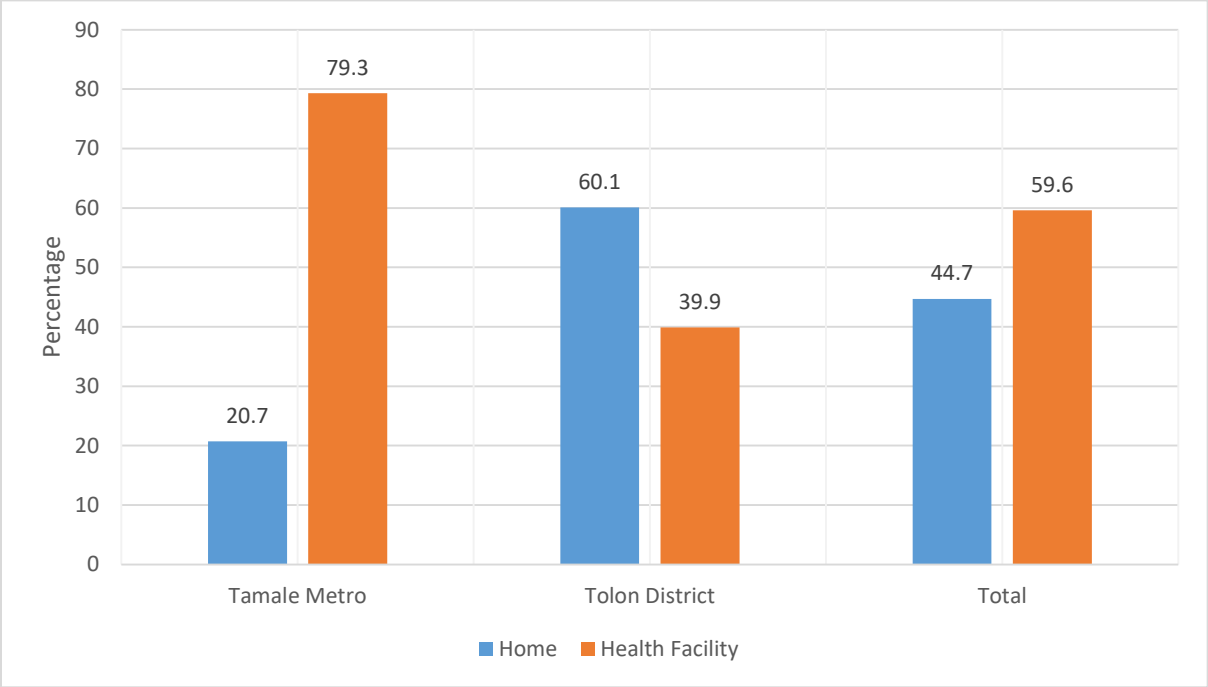


Figure 10. Preferred place of delivery.

Significantly, 20.7% of respondents in Tamale preferred home delivery compared to 60.1% of respondents in Tolon District that indicated their readiness to deliver at home. Also, of the total 59.6% of respondents that preferred facility delivery, the dynamics further revealed that whereas 79.3 percent of them were from Tamale, with a lesser percent of 39.9 being respondents from the Tolon District.

A regression analysis was also performed to determine factors that are significant in affecting the choice of place of delivery among pregnant women within the study area. Table 12 represents the results of the quantitative data collected.

Table 12

Significant Factors affecting the Choice of Place of Birth among Pregnant Women.

	OR	*SE*	*p*
Respondent's education	4.990	0.164	0.026
Location of respondent	0.459	0.511	.498
Availability of health facility	1.813	1.151	.178
Distance travel to access health facility	1.116	0.187	.291
Experience of previous deliveries	7.508	0.249	0.006
The attitude of the hospital staff	4.599	0.370	0.032
The frequency of attending ANC	8.237	0.087	0.004
Approval by husband	3.233	1.477	.490

The study employed indicators such as respondent's education, the location of respondents, availability of health facility, minimum distance traveled in accessing health care, experience from previous deliveries, and the frequency of attending ANC and seeking of husbands consent. Variables whose p-value were smaller than 0.05 were considered to be significant factors influencing the choice of place of birth among pregnant women. Consequently, respondent's educational background, the experience of previous deliveries, the attitude of hospital staff towards pregnant women during labor, and frequency of accessing ANC were found to be the significant variables affecting the choice of place of delivery among pregnant women.

Summary

The results of the findings were presented in this chapter. The first data were qualitative with typing the recorded data of the focus group discussants and the eight health participants into word and transporting them into the NVivo. Coding analysis

followed by the formation of emerging themes, visualization of results, and finally, recording all insights from analysis into the write-up.

The quantitative part of the study described the demographics, and I conducted a descriptive statistic. The analysis was a comparative study between Tamale (urban) and Tolon District (rural) with respect to factors that may affect the choice of place of delivery. Tolon District had the highest number of participants (60.1%) who preferred delivery at home to health facilities.

There was also a regression analysis and coefficients of variables such as educational background, the experience of previous deliveries, the attitude of hospital staff towards pregnant women during labor, and frequency of accessing ANC were found to be the statistically significant variables affecting the choice of place of delivery among pregnant women. The results of the findings will be interpreted and discussed further in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This final chapter is organized into five sections beginning with the introduction. The overview consists of short synopses of the reasons underlying the study's purpose, and I review the research questions and discuss the findings. I interpreted the results in the context of the literature reviewed as well as the theoretical framework discussed in Chapter 2. The study limitations follow along with recommendations for further research and the implications for social change.

In this study, I sought to determine factors that may affect the choice of place of delivery by pregnant women in rural (Tolon District) and urban (Tamale) areas in Ghana. I explored a combination of qualitative and quantitative data through a concurrent triangulation involving semistructured interviews with some selected professional participants and pregnant women and a detailed survey.

Throughout this study, I sought to address a gap in the literature by identifying significant differences in factors influencing women's choice of place of delivery between Tolon District and Tamale. Many researchers discuss maternal circumstances that inform choices for childbirth and delivery, but their focus has been on investigating factors in a single location: either a rural or urban setting. In developing countries, however, there are significant infrastructural and attitudinal differences in the livelihoods of populations in rural and urban spaces, including the options for health and social lives, including issues of maternity, pregnancy, and childbirth. Infrastructural differences exist

in the form of road networks, building facilities (hospitals and clinics), and general social amenities.

Attitudinal differences come about due to differences in education levels, income levels, belief systems, and sociocultural practices between urban and rural areas. Numerous researchers have focused on either rural or urban areas (Anyait et al., 2012; Envuladu et al., 2013; Chamroonsawasdi et al., 2015; Caulfield et al., 2016; Egharevba et al., 2017; Kifle et al., 2018; Ravi et al., 2014). Urban and rural dwellers face different circumstances, which may inform their choices for childbirth and delivery, because of the range of options available to them. This study was vital given the scarceness of literature on the subject for Ghana and Africa at large. The nuances of these differences between urban and rural populations have been neglected in the available literature, making comparison difficult.

Interpretation of the Findings

Description of the Interviews

Following RQ1, I examined what informs the choice of place of delivery among pregnant women in the study area (rural and urban). The data were from semi structured interviews with eight health participants, including male physician assistants with 25 years of experience, a male clinical nurse with 5 years of experience, and six female midwives with 7–18 years of practice. The experiences of patients as reported by the participants cut across services provided by health facility, preferred place of delivery, and reasons accounting for home delivery by pregnant women.

Service Provided by Health Facility

The results indicated that health personnel in both locations provide similar services with slight variations in approach. Midwives were the most common providers for ANC and delivery care in both study areas, but the clinical nurse and physician assistant played greater roles in the rural area. Tran et al. (2012) indicated that physician assistants provided ANC and delivery care for more than 25% in rural areas compared to 0.5% among urban women. Specifically, I observed that provision of services, such as scan, palpation, preparation of cases for emergency surgery and family planning cut across the duties of health professionals in both Tamale and Tolon District (Figure 1).

Whereas participants from Tolon District were found to undertake outreach programs to areas with limited access to health facilities on a regular basis, outreach in Tamale occurred less frequently. Additionally, the nature of service provided a difference in terms of referral cases; most emergency cases were referred from Tolon District to the Tamale Teaching Hospital. This outcome is expected as most patients in rural areas wait till complications occur before attending health facilities. In the rural area, women had poor services during pregnancy, often not receiving simple and essential services like physical measurements, blood pressure assessment, and urine tests. ANC counseling among rural women was only given to one fourth of that for urban women (Tran et al., 2011). Low household economic status in rural areas might be a barrier preventing women from obtaining expensive services for example laboratory tests (Gifford, 2001).

Preferred Place of Delivery

Participants vehemently indicated that most pregnant women prefer to deliver at health facilities instead of delivering at home. However, I also observed, despite the preference for delivering at facilities, a segment of pregnant women—especially in Tolon District—who preferred home delivery (Figure 2). This may be due to unavailability of specialized skills and expertise in the rural area compared to urban. A woman's place of residence, whether rural or urban, could affect the place of delivery (Enuameh, 2016). The findings in this study agree with a study by GDHS (2014) and Envuladu (2013), where most participants in a rural area preferred home delivery to delivering in a health facility.

Reasons Accounting for Home Delivery by Pregnant Women

A number of reasons could account for pregnant women preferring home delivery to a health facility. As depicted in Figure 3, the following may account for home delivery by pregnant women: traditional notion that a woman's ability to deliver at home is a sign of strength and faithfulness to her husband. For example, one participant stated:

> Some of us are made to deliver at home because of the society tags women who go to the hospital to deliver as weak. So, when I was in labor I was made to labor from Wednesday to Friday and when they realized it was a difficult labor, they then took me to the hospital. Most of us decide to deliver at home because we want to be seen to be strong. During labor the family advises you to try your possible best to deliver at home since delivery is a physiological process and with tenacity, you can easily overcome.

This notion is a tradition in the area and can explain the motivation for delivering at home, which must be influenced by social and cultural beliefs at the household and community levels (Montagu et al., 2011).

Health care facility delivery was largely dependent on the events around labor, attitudes of health personnel, and distance traveled to a health facility. Labor occurring during the night was a strong predictor of home/TBA delivery. Though sometimes labor can be sudden, in most cases it is not. One participant indicated:

> It is true that I usually give birth in the house because I do not even realize I am in labor, because the delivery process is very prompt. I do not experience any difficulty, and it mostly happens at midnight when you are fast asleep and no ready transport'.

Women who deliver at home often attribute their actions to the sudden nature of their labor, which usually occurs at night with a lack of transportation (Biweta, 2015). The ability to detect labor signs early may be a major factor in determining where women deliver. This study showed that when labor allowed time for women to get to a health care facility, they were more likely to deliver at a health facility.

Interpretation of the Survey

In RQ2, I looked at what factors affect the choice of place of delivery among pregnant women in the study area. There were evaluations of the demographic variables, such as age, education level, marital status, ethnic group, religion, among others, in frequency and percentages (Table 2). A survey of 552 participants (276 participants from

each location) between the ages of 15 and 49 years completed and returned the questionnaire.

About a quarter (25.5%) of respondents were between the ages of 30 and 34 years, with teenage respondents aged between 15 and 19 years accounting for just 4.0% of respondents. However, the oldest cohort, 45–49 years, accounted for 48 respondents, representing 8.7% of the study population.

Distribution of Place of Delivery

A total of 552 women (276 from each location) completed the survey. In this study, I investigated the factors influencing the choice of place of delivery among pregnant women in the rural and urban part of Ghana. Significantly, the majority (60.1%) of the study participants in the rural area (Tolon District) opted for home delivery, compared to 20.7% of participants from the urban area (Tamale) who indicated their readiness to deliver at home. Also, of the total 59.6% of respondents who preferred facility delivery, the dynamics further revealed that 79.3% were from Tamale, and 39.9% were from Tolon District (Figure 9). This result seems to indicate a higher preference by rural participants to deliver at home than at a health facility. These findings are consistent with the results of a study in some rural areas conducted by Ravi and Kulasekaran (2014) in Tamil Nadu, India, where 69% of the study participants delivered at home. Similar findings were also observed by Tsinuel et al. (2015) in a study conducted in Jimma Zone, Ethiopia, where 71% of the women delivered at home. Mukhtar et al. (2018) found that 72.6% of women gave birth at home in the tribal areas of district Srinagar. And Kifle et al. (2018) showed that 75.4% of the mothers living in rural communities of Eritrea

delivered their last child at home, whereas 24.6% delivered in health facility. However, Shah et al. (2015) in Nepal and Munjial et al., (2009) in a rural area of Punjab, India, showed lower percentages of home deliveries among their study participants, 45% and 41%, respectively.

A distribution shows that over 60% of the rural participants, preferred home delivery compared to less than 20.7% of the urban participants (Figure 9). The findings in this study are like those in other studies (Brieger et al., 1994; Hodgkin, 1996). Idris et al. (2006) reported 70% home delivery among women in a semi-urban settlement in Zaria, Northern Nigeria. Home deliveries, especially with no skilled attendant, are associated with an increased risk of prenatal and maternal mortalities. Living in urban areas increases the probability of pregnant women using skilled assistance at delivery (Tarekegn et al., 2014). History of obstructed labor appeared to be positively and significantly associated with women residing in urban areas, who were almost twice as likely to receive ANC, than women residing in rural areas in Bangladesh (Babalola & Fatusi, 2009). Urban women tend to be more educated than rural women, which may broaden their knowledge about the benefits of modern health care services (Gabrysch & Campbell, 2011).

Socio-demographic Characteristics and Place of Delivery

Concerning the educational background of respondents, I found that only 8.2% of study respondents completed tertiary education, 11.4% primary, and 47.5% of the study respondents had no formal education. This indicates that, on average, most of the study

participants lacked formal education. In this study, I found participants' level of education to be significantly associated with the choice of place of delivery (Table 12). Alvarenz, Gil, and Hemandez (2009) found that well-educated women are likely to deliver at a health facility compared to illiterate women, whose babies are delivered by TBAs. Additionally, other studies found a relationship between pregnancy-related maternal deaths and the education level of women (Yanagisawa et al., 2006). In another study in Ethiopia, researchers found a close linkage between educational background and health facility participation (Afework et al., 2014). Kanini et al. (2013) also found that well-educated women are more knowledgeable of the risk factors associated with home delivery and are more likely to use a health facility compared to those with lesser education.

A well-informed person can be expected to be more likely to make rational decisions about life choices that promote healthier living. A mother with a primary school certificate or above primary level is more likely to have delivery in a health facility compared with a mother without formal education. Therefore, education tends to increase consciousness about basic maternity, delivery, and care. The higher the education level, the more likely a pregnant woman would choose delivery at a health facility to home.

The GDHS report for 2008 showed a similar trend. As was the case in this study, the number of years spent in school showed a significant association with seeking a health facility for delivery; women who have more schooling years have a higher proportion of deliveries attended by TBAs compared to those with without formal education. In this study, more than 50% of participants had no formal education, with

more than 40% of them having education above the primary level (Table 2). Other studies have shown a statistical link between formal education and skilled delivery services (Kifle et al., 2018; Kitui et al., 2013). A better-informed individual can be expected to be better placed to make reasonable decisions (Mpembeni et al., 2007). Educated women were more likely to have skilled delivery, with the chance of having skilled delivery increasing as the level of education increases (Saxena et al., 2013).

In this study, I have demonstrated that proportions of participants preferring health facility delivery increased with increased level of formal education. Women with postsecondary education were 2.48 (95% CI 1.04–5.93) times more likely to deliver at a health care facility than women with primary education. Women whose husband had postsecondary education were 36 (95% CI 3.19–419.88) times more likely than those with no education (Egharevba et al., 2017). This implies that the level of education of both a pregnant woman and her husband can influence her choice of place of delivery. Studies on the determinants of skilled delivery in rural Cambodia also established that maternal education had a strong effect on facility delivery; women who had at least 7 years of schooling were six times more likely to deliver babies at a health facility than those who did not attend school (Chamroonsawasdi et al., 2015). In another study, the respondents in both Laikipia and Samburu advocated that women without education do not have facility-based supervised deliveries (Caulfield et al., 2016). The findings in this study are consistent with the results of studies conducted by Belay and Sendo (2016) in a rural area of Ethiopia and Ravi and Kulasekaran (2014) in Tamil Nadu, India, which reported that educational status of study participants influences the choice of place of

delivery. A higher level of education among women can explain the better awareness of the need for health care during the birth of a child and the utilization of health care delivery services. Ensuring that girl children receive education, at least up to secondary school level, can be a viable option and strategy to ensuring more institutional deliveries, skilled attendants at birth, and consequently safe motherhood in the study area.

Regarding marital status, 523 respondents (94.7%) were married; 1.3% were single and 1.4% were widowed (Table 2). The dominance of married respondents is not surprising considering the extent to which tradition abhors childbirth outside marriage in the study area. Also, the two major religions in the area, Christianity and Islam, discourage childbirth outside of marriage.

The ethnic background also revealed that Dagombas (87.7%) constituted the major ethnic group, with other ethnic groups, such as Dagaarti, Mamprusi, and Akans, forming just 3.1%. This is expected, as the study area is largely dominated by the Dagombas, unlike the southern part of Ghana which is mostly dominated with Akans. No respondent was found to practice faith outside the three main religions of Islam, Christianity, and traditional religion. Specifically, most respondents (89.9%) practiced Islam compared to Christianity (8.0%). The last demographic characteristic I examined focused on the education level of respondents, which is believed to play a crucial role in determining the factors that account for the choice of place of delivery among pregnant women. The majority (51.3%) of respondents' husbands did not have any formal education, a figure slightly higher than the recorded percentage (47.5%) for respondents

themselves. However, approximately 15.6% of respondents' husbands were found to have obtained a tertiary degree.

Cultural Factors and Place of Delivery

This study did not find any religious beliefs that may be associated choice of place of delivery among pregnant women (Table 12) in the study area. But there is a cultural linkage, I was made to understand that women in this community wish to deliver in the house, which is a way of proving to their husband, family and the entire community that the pregnancy is legitimate. Therefore, during delivery, if they opt for facility delivery, people will say the baby is not that of their husband's. That is why many give birth at home, even if they wish to deliver at the facility.

For all the total participants, the husband of respondents was found to head approximately 46.6%, in-law (31.2%) and self-indicating headship by respondents in rare cases of 2.2% (Table 2). The dominance of husband headship is a testament to the patriarchal nature of Ghanaian society. As high as 95.0% and 98.9% of married households were found to be headed by the respondent's husbands and in-laws respectively. A further 90.6% of married respondents opined that their households were headed by their fathers (Table 3).

However, other studies found otherwise**.** For example, most cultural settings in Uganda have a strong belief for the handling of the birth which is considered the 'second child'. They consider the placenta disposal ritual as a determinant of future prosperity or calamity in the family and as such if not carefully dealt with by skilled attendants could lead to high level of unskilled deliveries in such cultures (Anyiait et al., 2012).

This study also found out that household heads could influence the place of delivery. This finding agrees with a GDHS, (2006) that said that some women in labor must seek approval from a husband or an in-law for approval before she can go to seek the services skill attendant in Northern Ghana. This can put the life of the woman in danger (Nina et al., 2008).

The GDHS. (2006) found that lack of sovereignty regarding cultural norms for women is one of the barriers to skilled attendance, in that certain cultures maintain that women must wait for approval from male relatives before seeking help which additionally makes the situation worsen. Braveness and respect are given to women who can keep mute even when in pains at labor, in order to protect herself from attacks by witches. They even go to the extent of delivering alone to keep away onlookers and its even skill delivery is for those who have difficulty in giving health Unskilled home delivery is an acceptable way of saving money for the family (Nina et al., 2008).

In another study by Anyait et al., (2012) among the indigenous Maasais, if a woman is uncircumcised, she will be circumcised by unskilled TBAs during labor. So, to avoid this, women do self-delivery which could endanger the lives of both mother and baby to prevent being circumcised. Others believe that birth at home is considered optimum because it saves a family from financial hardship.

Availability of Health Facilities and Place of Delivery

The findings of this study indicated that as high as 94.7% of study respondents could identify a health facility in their locality (Table 4). However, the study also revealed that more respondents (99.3%) from Tamale answered in the affirmative of yes

response. The variations between the two districts in terms of the availability of health facility is not surprising because most developmental projects in Ghana and to a larger extent the developing world has been urban-based. Hence, 9.8% of participants in the rural area (Tolon District) indicated no to the availability of Health facility in their location. The availability of health facility was not a statistically significant factor that affects the choice of place of delivery between the rural and urban area in this study. This may be so due to the insignificant differences of participants' response to the availability of health facility at their place of residence (Table 4). Though highly valued, virtues like support, care, and companionship when was mostly missing in the experience of many women who delivered at health centers. Women who give birth at home did so because they were assured of these things when they delivered at home (Akum. 2013).

A similar pattern of results was found in terms of the availability of health professional especially midwives at health facilities. Whereas all respondents from Tamale agreed that health facilities are in their communities have the required midwives, about 4.0% of respondents from the Tolon District bemoaned the lack of midwives to provide the required services (Table 5). This indicated the lack of required health professionals in some of the rural areas in Ghana, which may be an influential factor in the choice of place of delivery in the rural area.

Antenatal Care Attendance and Place of Delivery

Attendance of antenatal clinic may influence the choice of place of delivery among pregnant women. In this study, 84.5 % of the total participants (rural and urban) attended the ANC visit schedule (Table 9). These findings are like a study by Afulani

(2015) among pregnant women in Ghana. This study identified a statistically significant association of ANC attendance to the choice of place of delivery among pregnant at the study area (Table 12), which it agrees with a study by Mukhtar et al., (2018) where ANC follow-ups was a significant factor that influences participants choice of place of delivery in district Srinagar. On the contrary, a study by Idris et al., (2006) indicated that ANC attendance in the previous pregnancy preceding delivery did not influence hospital delivery as most of the respondent who had at least four ANC attendance (46%) delivered at home. This variation in findings could be due to an increased awareness of health education among pregnant women as well as a high level of education by participants. Roro et al., (2014) found that for many women, only labor complications would get them to go to a health facility to deliver, and therefore concluded that information they received during antenatal visits was not enough on the importance of institutional delivery or regarding birth preparedness. Furthermore, several time health workers used for counseling expectant mothers during antenatal sessions is minimal and therefore passes as a missed opportunity for critical education of pregnant women (Samson, 2012).

In this study, Tolon District had 27.2% of participants not attending antenatal clinic during their previous pregnancy as compared to a low number (3.6%) from Tamale (Table 9). It is not surprising that the urban area had a low percentage of participants not attending ANC clinics, as the level of education in the urban area is usually higher than those in the rural area. High level of education may result in participants knowing the health importance of ANC attendance to both the unborn child and the mother. Medical examination during pregnancy can help women with information about the merits of

delivery in the presence of a skilled birth attendant, to be guided recognizing symptoms of complications early enough and act accordingly to ward off any potential danger in a prompt manner (Choulagai et al., 2013). Whitworth et al. (2011) reiterated that for the avoidance of death or injuries, it is necessary to highlight the quality of the care over the course of the period of pregnancy. Focused ANC has been found to offer the opportunity for early detection and timely treatment of diseases which improves maternal outcomes. For example, diagnosing and treatment of high blood pressure, to prevent eclampsia, has been found to significantly reduce mortality (WHO, 2014). ANC is perceived to have a positive effect on maternal health outcomes. Regular attendance of ANC sessions broadly allows for the detection and treatment of pregnancy-related complications promptly and provides dietary directives and counsel which goes to augment the state of health of expectant mothers (WHO, 2013). Knowing the condition or state of their pregnancies would put pregnant women and their families in an advantageous position to quickly seek help from qualified health personnel at the first sightings of symptoms (Kabakyenga et al., 2011). Attracting gonorrhea during pregnancy can lead to pre-birth rupture of membranes which causes premature delivery (Macey et al., 2015; Heather E Jeffery & Monica Lahra, 2009; Macey et al., 2015). Tudor et al. (2011) discovered that ANC also makes it possible to screen for sexually transmitted diseases such as HIV infection.

Experiences at Health Facility and Choice of Place of Delivery

The significant difference between the rural and urban in ANC attendance may also be due to participants having some experience during their visit at the antenatal clinic and previous delivery at the delivery room which may be favorable or unfavorable.

Some of these experiences may vary in the rural and urban area. And this may be a contributing factor for participants choosing home delivery or health facility delivery. Previous experience by pregnant women was a statistically significant factor in the choice of place of delivery (Table 12).

These factors may include attitudes of health professionals, participants, ease to discuss their delivery position with health professionals and state of privacy at the delivery room (Table 10). Many women with good prognosis of their antenatal visits may feel encouraged to deliver without a skilled attendant (Yidana & Mustapha, 2014). Akum (2013) found that women in labor were poorly received when they got to health facilities, the attitude of health personnel was poor, and they did not relate to them well on personal levels. Some were also not attended to (Akum, 2013) fostering a negative perception of the quality of care at health facilities.

At the rural area (Tolon District), 77.3% reported satisfactory attitudes by health professionals compared to 93.0% from Tamale. None of the participants from Tamale reported a bad attitude compared to 5.2% from Tolon District. The majority (95.8%) from Tamale had good privacy compared to participants (57.2%) from Tolon District. A total of 14.9% of participants from Tolon District indicated no privacy in the delivery room compared to 1.6% from Tamale. Roro et al., (2014) reiterated that poor reception and improper handling of expectant mothers are issues of concern in maternal care delivery, in this study participants underscored this as problems in health facility-based deliveries. Those who had experienced such behavior previously would not advise others to go to health institutions when they are in labor. Akum's (2013) added that poor attitudes of

facility-based health workers deter many women from seeking assistance from health institutions, particularly institutional delivery. Indeed, in both rural and urban settings, Roro et al., (2014) detected a relationship between place of delivery and previous pregnancy experience to the extent that women with second time pregnancies were more likely to deliver at home than those pregnant for the first time. Perceived quality of care are the benefits mother and the newborn derive from delivering in a health facility with trained personnel.

This study is consistent with the finding of other studies (Pfeiffer & Mwaipopo, 2015; Teferra et al., 2012), where they found that another important determinant for utilization of the institutional delivery is the uptake of ANC services. Women who had the recommended four or above antenatal visits during their last pregnancy chose health care facility for the childbirth. This can be attributed to the advice provided by the health care workers during ANC resulting in the increased use of institutional delivery. Women who took part in Yidana and Mustapha‘s (2014) study complained about being directed to remain in bed as the baby emerges, and having their feet fixed in stirrups as the birth attendant seeks to gain a clear view of the process and have easy access. While such a scenario may help facilitate their work, it may be misinterpreted by the women in labor who may feel uneasy and embarrassed and create potential cause for the refusal to use health facilities when they are in labor. Participants in the urban area could describe with ease, their delivery position with a health professional than those in the rural area. This study indicated 96.8% of participants from Tamale described their ease to discuss their delivery position with health professionals, with 28.6% from Tolon District who could

not discuss with ease their delivery position with the health professionals (Table 10). Many have found a delivery in the supine position to have some disadvantages. It is seen to defy gravity and prevents the flow of blood to the baby which delays the second stage of labor. In many studies, women in the developing world consider delivering in the supine position embarrassing and exposed without much privacy. For such women, their preference for TBAs is because they can squat or kneel when in labor. Debate rages on about the role of upright or recumbent birthing positions in causing severe perineal trauma and some other less severe perineal injuries (Edqvist et al., 2016).

Distance and Place of Delivery

Generally, respondents in Tamale had a favorable travel distance in accessing health care than those in Tolon District. Specifically, whereas 22% of respondents in Tolon District travel distances above 10 miles, only 5.4% of health seeking respondents in Tamale travel above 10 miles (Figure 6). There was no statistically significant association between distance travel and choice of place of delivery in this study (Table 12). This was consistent with a study by Kifle et al., (2018) where he indicated that distance to a health facility was not an influential factor to the choice of place of delivery among mothers living in rural communities of Eritrea. However, the findings of this study were contradictory to findings by Abdulmageed and Elnimeiri, (2018) where the study noted that distance to a health facility was a significant factor to the choice of place of delivery among pregnant women. The study indicated that the nearest health care facilities were situated less than 5 kilometers away for approximately 49% only of the

participants. Hence, it may be seen that there is a need for a greater number of health care facilities that are situated in closer proximity to Sudan's rural areas. The finding of this study was also not in agreement to other studies that also indicated distance as a significant factor to the choice of place of delivery, which noted long distance to be a significant factor in impeding visits to health care facilities (Envuladu et al., 2013; Mugo et al., 2018). Esena et al., (2013) found in the Ga East Municipality that factors associated with the utilization of skilled delivery services include but not limited to the distance to a health facility. The variation in results may be due to an improved road network and closeness of health facility to most of the participants in the study area. Rural areas have the most inefficient maternal referral systems because of the limited access to emergency obstetric care as a result of scarce resources and long distances to health facilities and road networks (Gething et al., 2012). This is supported by the findings of this study as 22% of respondents in the rural area (Tolon District) travel distances above 10 miles, compared 5.4% of respondents in the urban area (Tamale). A study by Allou, (2018) in Tolon District indicated that 24% of the participants said they live nearer the TBA than the nearest health center and therefore it is easier for them to consult the TBA when labor sets in.

Distance is a logistical factor that may prevent women from accessing birth in a health facility (De Allegri et al., 2011; Gabrysch et al., 2011). However, the distance may be circumvented through a good and fast means of transport to a health facility. Roro et al., (2014) indicated the lack of means of transport related to poor roads and unavailability of ambulance services was a contributing reason for home delivery. A

supportive network of maternity referral systems is required for Ghana's lower level health facilities like district hospitals and CHPS compounds for them to function more effectively and efficiently **(**Awoonor-Williams et al., 2015). Availability of good road, appropriate transportation, information, and communications technologies are factors which determine the efficiency of maternal referral systems; these factors are deficient in many parts of Ghana.

Integration of Data

This final stage of integration of quantitative and qualitative data through triangulation was used to understand further the entire literature and the findings of the health personnel and pregnant women. As discussed in the methodology, the study used a combination of qualitative and quantitative data through a concurrent triangulation involving an interview with some selected health professionals and study participants and the use of detailed survey with the study participants. The triangulation method was to show how the interviews support or confirm from the study participants.

The interviews with the health professionals did support the responses from the patient participants. This confirmed the preference of pregnant women for home delivery due to cultural beliefs and circumstances at the time of birth. Some women culturally believe, giving birth at home is a sign of a "strong" woman in society. The attitude of health professionals was also a reason for home delivery. The occurrence of birth at midnight and lack of transportation has been indicated as a reason for home delivery by the pregnant women.

Theoretical Framework and Research Findings

The theoretical basis for the study was based on model that was used to investigate the factors that influence the choice of delivery among expectant mothers in the study. The model was used to investigate the factors that hinder skilled delivery, as a way to explain why expectant mothers may or may not seek skilled care at childbirth in the study area. The theory was also used to determine factors that may lead to home or health facility delivery both from the expectant mothers and the health professionals.

The theory was again used to predict factors that lead to anxiety and depression both from patients and professionals.

Finally, this theory was used to explain the socio-cultural factors and beliefs, accessibility to health facility, care environment and resource, and availability of skilled attendants in the context of the study. The findings of this study indicated a high percentage of rural expectant mothers preferring home delivery to health facility.

Limitations of the Study

Like all others of its kind, this study was affected by situations which were outside the control of the researcher despite the careful selection and application of all aspects of this study. These conditions put a limit to the extent of what this work can cover. However, this did not affect the quality of data collected and the results in this study. The limitations of this study stemmed from two levels of issues.

Firstly, the language barrier was a limitation to the study. Not all the study participants could read, write or speak English. However, the questionnaire was

translated into their local language when necessary. The study did not include non-Ghanaians.

The heart of communication or exchanging information is language. However, when there is a breakdown due to the language barrier, vital information captured may not be accurate or just plain incorrect. This, in turn, can lead to errors in data collection and misinterpretation of the data collected. However, an accurate and continuous interpretation of the questionnaire into local dialect as observed in this study minimizes the error in the data collected. I am very fluent in the local dialect and I have an excellent writing and reading ability with respect to their local language, hence I personally translated the questionnaire from English to the local dialect when needed.

The second limitation was the problem of biased response, which was due to meeting a certain characteristic or set of features (or being of a stock). Recall bias was a problem since mothers had to recollect what happened in their time of childbirth activities. Hence, participants may not give an honest answer and their response might not be the reality on the grounds. This also resulted in a number of uncompleted questionnaires, which was included in the study, hence reducing the number of sample size.

However, this did not affect the data since the minimum required sample size was achieved in the study. I continuously assured participants of their anonymity, hence their response will not in any way affect their treatment at the health facility. I continuously assured patients to gain the firmest of confidence in their responses to the questions. Hence, the probability of such incidence may be on the minimum.

The Implication of Social Change

This study potentially provides information that can help shape the choices many women make because of how they perceive birth and the cultural traditions and taboos around it. This study has provided insight into the importance of individuals' previous experiences with pregnancy, and how that leads them to assess the risk associated with pregnancy. This study also potentially uncovered women's attitudes to danger link to childbirth and how they confront that or rationalize the way they deal with it, as well as the norms and values within certain traditions that inform people about the need and importance of exploring the use of maternal health facilities.

Given the differences between urban and rural areas, the national maternal health care program should develop different strategies for rural and urban areas. In rural areas, which are characterized by low utilization of ANC, the government should focus on improving the quality of ANC through core ANC services, especially among poor women. Education on maternal issues should be intensified among rural women. Health facility should be made available close to patients in rural areas to minimize their likelihood of having delivery at home.

In urban areas, where this study observed a high preference for delivery at a health facility, there were few participants who preferred home delivery, hence government program should maintain its high standards at the urban area while working to reduce the high rate of home delivery at the rural area. Efforts must be made to improve women's and health providers' awareness of ANC and delivery care. Women, especially at the rural area, need more information about the importance of core ANC

services and delivery at a health facility. Whiles necessary education and material is provided at the rural area, there is still the need for tackling other issues such as road network, increased in health personnel and availability of health facility at the rural area.

Findings therefore potentially reflect the social mood in the study locations. Putting all these together, the conduct of this study stands to provide the necessary information that community leaders and policymakers can appropriate or adapt to acquire a new way of thinking on pregnancy and childbirth both at the rural and urban areas. The potential for positive social change, therefore, must do within the findings of this study.

Recommendations

Recommendations for Action

The findings of this study will serve as a good source for policy implementation. Hence, a summary of the findings will be disseminated to the Obstetric Department of urban and rural hospitals in the Country. This will inform proper planning towards maternal policies both at the urban and rural areas. Therefore, the overall team members of the health personnel involved in the care for pregnant women will be more receptive towards the needs of the patients when the need be.

Also, a summary of the findings in a written form either in English or the local dialect with contact details of the investigator, for the participants in case they have any question. These feedback with respect to the findings of this study is necessary since each participant contributed to the success of the study.

With the high achievement of health facility delivery at the urban area and moderate achievement at the rural area, Ghana Health Service should commend and

design motivated packages to all skilled birth attendants to maintain the good work in the various health facilities across the country.

It was observed in this study that women who did not attend ANC were more likely to have home delivery. Hence, education by the Ministry of Health heads and Community should be intensified to encourage pregnant women to attend ANC services

Girls should be highly motivated and incentivized to attend school up to the secondary level or higher. Hence, the current free basic compulsory education should be sustained, and more females must be encouraged to attend with full support from family, the community and the government. Higher education must be encouraged among females, as the educational status of the pregnant woman is an influential factor to the choice of place of delivery. Education on maternal health services should also be intensified to both women with or without formal education.

Recommendation for Further Studies

The study indicated a high percentage of rural participants who prefer home delivery to health facility delivery as compared to participants in the urban area. Participants' educational level, previous experience of deliveries, attitudes of hospital staff and frequency of attending ANC were statistically significant factors affecting choice of place delivery in this study.

Further studies can be conducted, with a focus on the Southern part of Ghana to compare if there is any disparity between choice of place delivery between the Northern and Southern part of Ghana, with respect to choice of place of delivery among expectant mothers.

Concluding Statements

The choice for a place of delivery by pregnant women may differ among the rural and urban areas. Majority of rural women prefer home delivery to facility delivery compared to the low rate of home delivery by urban women. These may be due to several factors that may influence one choice of place of delivery. Significantly, the majority (60.1%) of the study participants at the rural area (Tolon District) opted for home delivery compared to 20.7% of participants from the urban area (Tamale) indicated their readiness to deliver at home. Also, of the total 59.6% of respondents that preferred facility delivery in this study, the dynamics further revealed that whereas 79.3% of them were from Tamale, 39.9% of the respondents where from the Tolon District.

This is an indication of a larger preference by the rural participants to have delivery at home than at a health facility. Service content (e.g., the neglect of core services such as blood pressure measurement and antenatal counseling) at the rural facility may be inadequate. Also, ANC attendance was inadequate in a rural area. Finally, there was low educational status of pregnant women as well as unfavorable treatment from health personnel at the rural area. Generally, respondents in the urban area had a favorable travel distance in accessing health care than those in the rural area.

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Appendix A: Survey Instruments

WALDEN UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Title: Factors that Influence the Choice of Place of Delivery among Expectant Mothers in Ghana

Name of Researcher:

Name of Supervisors:

Please remember that this is not a test and there is no answer considered as correct or wrong. Individual participants may have different responses and no one will know how you answered your questions.

If you have any concern about the study and you wish to contact someone independent, you may contact;

Instructions: Please tick or insert the appropriate feedback

Section A: Socio-Demographic Characteristics of the Mother

1. Age ----------

2. Level of education: None [ ] Primary [ ] JHS [ ] SHS/Voc/ Tech [ ] Tertiary [ ]

3. Type of residence: Compound house [ ] Semi-detached house [ ] Detached house [ ]

4. Residential status: Own residence [ ] Rented house [ ] Family house [ ] others (Specify).....

5. Household head: Self [ ] Husband [ ] Father [ ] In-law [ ]

6. Number of households living in the house ----------

7. Ethnicity: Gonja [ ] Dagomba [ ] others (Specify).....

8. Religion: Christianity [ ] Islam [ ] Traditional [ ] Others (Specify).....

9. Marital Status: Single [ ] Married [ ] Divorced/Separated [ ] Widowed [ ] Cohabitating [ ]

10. Husband's educational level: None [ ] Primary [ ] JHS/Middle [ ] SHS/Voc/ Tech [ ] Tertiary [ ]

11. Occupation of husband: Farming [ ] Trading [ ] Public servant [ ] Others (Specify).....

Section B: Skilled Deliveries Coverage

12. Is there a health facility in this community? Yes [ ] No [ ]

13. How many miles will you approximately travel to access health care services? ----------

14. By what means do you travel to the place of health care service? Foot [ ] bicycle [ ] motorbike [ ] passenger car [ ] others (Specify)

15. How many children have you given birth to? ……..

16. How many of them did you deliver in a health facility?.....

17. How many did you deliver at home?.....

18. Where do you intend to deliver in your current pregnancy? Home [ ] Health Facility [ ] Don't know [ ]

19. Where did you deliver your last child? Home [ ] Health facility [ ]

20. Was your child weighed at birth? Yes [ ] No [ ]

21. What was your child's birth weight?.....

22. Why do you think some expectant mothers deliver at home instead of a health facility? No health facility [ ] Financial constraints [ ] Attitude of midwives [ ] TBAs are available [ ]

23. Ability to discuss your preferred delivering position with midwives? Very well [ ] Not well [ ] Poorly [ ]

24. Is there privacy in the labor wards? Good privacy [ ] No privacy [ ] Averagely [ ]

25. What was the attitude of the staff towards you? Satisfactory [ ] Unsatisfactory [ ] Bad [ ]

Section C: Economic Status, Education Status and Level of Empowerment

26. How many rooms are available for use only by this household? ----------

27. What type of fuel do you use in cooking? Charcoal [ ] Firewood [ ] Gas [ ] Others (Specify).....

28. Is there electricity in the house? Yes [ ] No [ ]

29. Do you read a newspaper at least once a week? Yes [ ] No [ ]

30. Do you listen to the radio? Almost every day [ ] At least once a week [ ] Less than once a week [ ] Not at all [ ]

31. Do you watch television? Almost every day [ ] At least once a week [ ] Less than once a week [ ] Not [ ]

32. Which of the following do you own? Radio [ ] television [ ]

33. What is your occupation? Unemployed [ ] Trader [ ] Farmer [ ] Civil servant [ ] Others (Specify)

34. Which household resources do you control? Financial [ ] Food materials [ ] Both [ ]

35. Do you decide with your husband on how to spend his income? Yes [ ] No [ ]

36. Do you have the freedom to move or travel? Yes [ ] No [ ]

37. Do you earn more than your partner? Yes [ ] No [ ] Can't tell [ ]

38. Do you take part in decision making on household matters? No [ ] Yes [ ]

If yes

39. Which household matters do you decide together with your partner? Own Health care [ ] Large household purchases [ ] Daily purchase [ ] Children's education [ ] Household expenditure [ ]

40. Do you have the right to decide how to spend your own money? Yes [ ] No [ ]

41. Who makes the decision if you need to buy clothes for you and the family? Your Husband/partner [ ] Both husband and wife [ ] wife [ ]

42. Who makes the decision if you need to buy large household items/furniture? Your Husband/partner [ ] Both husband and wife [ ] Wife [ ]

43. Who makes the decision whether a child is sick enough to go for treatment? Your Husband/partner [ ] Both husband and wife [ ] Wife [ ]

44. Who makes the decision whether you should work outside of the home? Your Husband/partner [ ] Both husband and wife [ ] Wife [ ]

45. Who makes the decision when your children have stationeries /school needs to be addressed? Your Husband/partner [ ] Both husband and wife [ ] Wife [ ]

46. Who makes the decision about how to spend the families income? Your Husband/partner [ ] Both husband and wife [ ] Wife [ ]

47. What is your family's main source of income? Husband's earnings [ ] Own earnings [ ] Yours and husbands earnings [ ] Others (Specify).....

48. How often do you have money that you alone can decide how to spend? Always [ ] Often

[ ] Sometimes [ ] Never [ ]

49. Do you currently have any type of saving Scheme? Yes, partners saving [ ] Yes, mine and partners saving [ ] Yes, self-saving [ ] No, we don't have any saving [ ]

50. Do you attend antenatal clinics when pregnant? yes [ ] No [ ]

51. How many times did you attend ANC in during your last pregnancy? …….

52. Who decides when you should go for ANC? My husband [ ] Myself [ ] In laws [ ]

53. Who gives you money to go for ANC? Self [ ] Husband [ ] In laws [ ]

54. Are there midwives in the closest or nearest health facility? Yes [ ] No [ ]

55. Does your husband approve of facility delivery? Yes {] No [ ]

56. Is there equipment to conduct deliveries in the nearest health facility? Yes [ ] No [ ]

Appendix B: Letter of Invitation for Health Professionals

Title of Study: Factors that Influence the Choice of Place of Delivery among Expectant Mothers in Ghana

Name of Researcher: Baba Ibrahim Mahama

Name of Supervisors:

I, Baba Ibrahim Baba, from the School of Health Sciences, Walden University, invite you to take part in a research project entitled" Factors that Influence the Choice of Place of Delivery among Expectant Mothers in Ghana"

The aim of this study is to investigate factors that influence the choice of place of delivery among expectant mothers living in rural and urban settings of the Northern Region of Ghana. If you decide to participate, you will be interviewed to share and provide your various opinions on why you think some pregnant women decide to deliver at home, whiles, others choose to give birth at the health facilities. The expected duration of the interview will be between 15-20 minutes. This research work is for academic purposes only, and it is a requirement for my Ph.D. degree in public health at Walden University. It has no relationship with my work as a health professional.

Maternal mortality rates in Ghana continuous to be a challenge for the overall health and development agenda, and efforts made to arrest the situation has not been a resounding success. To successfully target interventions towards reducing its high prevalence rate, it is important there is a thorough understanding of the problem backed by empirical data. The outcome of this study might be relevant and useful to the planners of reproductive health services for designing appropriate and efficient educational and preventive policy

initiatives. The significance of the social change of this project is that it will provide information that can help shape the choices many women make because of how they perceive birth and the cultural traditions and taboos around it.

You will be called upon at the end of the interview to review the transcript.

If you have any further questions about your rights as a respondent, please contact.

Thank you.

Investigator's signature.....

Appendix C: Semi structured Interview Questions

G 1: Semi-structured interview questions with the Health Professionals

Researcher's questions

1. What are the specific maternal health services that you provide to pregnant women in this facility?
2. In your opinion, where do most pregnant women usually go to give birth?
3. If in your opinion most pregnant women prefer to give birth at home then what could be the reasons?
4. If in your opinion most pregnant women prefer to deliver at health facilities then what could be the possible causes, and if they do not prefer health facility delivery, why not?
5. How would you describe the attendance of ANC by pregnant women of this community?

Appendix D: Focus Group discussion Guide

G 2: Focus Group discussion Guide for Expectant and lactating mothers (Who meet the inclusion criteria)

1. Where do you often go for maternal health services when pregnant and why?

2. Where do you choose to go for childbirth when in labor and why?

3. Whom do you prefer to conduct your delivery and why?

4. If you prefer informal providers like TBAs (Traditional Birth Attendants), then, why?

What informs your decision to decide to give birth at the facility of a TBA?

5. If you prefer other than TBA, then why?